BULLETIN OF THE HISTORY OF MEDICINE

ORGAN OF THE AMERICAN ASSOCIATION OF THE HISTORY OF MEDICINE
AND THE JOHNS HOPKINS INSTITUTE OF THE HISTORY OF MEDICINE

Founded by HENRY E. SIGERIST

Editor—OWSEI TEMKIN

VOLUME XXIII

BALTIMORE
THE JOHNS HOPKINS PRESS
1949

610.5
B93
H 69

Medical
Farrow

TABLE OF CONTENTS

MAIN ARTICLES PAGE

Medicine and the Problem of Moral Responsibility: OWSEI TEMKIN 1
John and William Hunter and Some Contemporaries in Literature and Art: JANE M. OPPENHEIMER 21
The First Description of Yellow Fever: Joam Ferreyra da Rosa's *Trattado Unico da Constituiçam Pestilencial de Pernambuco:* KARL A. BAER 48
An Outline of a History of Ideas in Neurology: W. RIESE..... 111
Scurvy at Fort Atkinson, 1819-1820: WILLIAM J. REALS..... 137
The History of Goiter in Africa: ISIDOR GREENWALD..... 155
A Physiological and Pharmacological Appreciation of *Hamlet*, Act I, Scene 5, Lines 59-73: DAVID I. MACHT..... 186
Harvey's and Cesalpino's Role in the History of Medicine: SIGISMUND PELLER 213
Odyssey of an American Cancer Specialist of a Hundred Years Ago: RUTH T. FARROW..... 236

William Osler Memorial Number

The William Osler Memorial Number: OWSEI TEMKIN.... 319

OSLER ANNIVERSARY MEETING OF THE JOHNS HOPKINS MEDICAL HISTORY CLUB, May 19, 1949

Osler as a Pathologist: EUGENE L. OPIE..... 321
Osler as a Clinical Teacher: JOSEPH H. PRATT..... 327

OSLER CENTENARY CELEBRATION OF THE AMERICAN ASSOCIATION OF THE HISTORY OF MEDICINE, LEXINGTON, KENTUCKY, May 22, 1949

Dr. Osler as Pathologist: CHARLES H. BUNTING..... 336
Grace Revere Osler: Her Influence on Men of Medicine: JOHN F. FULTON 341
Sir William Osler and His Portraits: CYRIL B. COURVILLE 353
Osler: An Exemplar of Litterae, Scientia, Praxis, and Doctrina: BENJAMIN SPECTOR 378

THE WILLIAM OSLER MEDAL ESSAY

A Medical History of the Harrodsburg Springs: C. A. VANARSDALL 387

The Fielding H. Garrison Lecture: George Cheyne, 1673-1743: HENRY R. VIETS 435
Notes on the History of Nephritis: RALPH H. MAJOR 453
Pinel's Conception of the Psychopathic State. An Historical Critique: JEROME KAVKA 461
Brödel's Ulnar Palsy. With Unpublished Brödel Sketches: VICTOR A. MCKUSICK 469
Practitioners of Folk Medicine: LOUIS C. JONES 480
A Century of English Quarantine (1709-1825): CHARLES F. MULLETT 527
Goethe's Conception of Evolution and its Survival in Medical Thought. A Tribute on the Occasion of the Bicentenary of Goethe's Birth: WALTHER RIESE 546
Before and After: A Medical Drama of 1849 and 1949: RICHARD HARRISON SHRYOCK 554
Notes on the Early Days of the American Association of the History of Medicine: E. B. KRUMBHAAR 577

TEXTS AND DOCUMENTS

Jacme d'Agramont: *Regiment de Preservacio a Epidimia o Pestilencia e Mortaldats.* Translated by M. L. DURAN-REYNALS and C.-E. A. WINSLOW 57
Two Nineteenth-Century Italian Medals Figuring Surgical Instruments: LUIGI BELLONI 253

NOTES AND COMMENTS

The Library of the Madras Medical College: D. V. S. REDDY 90
Medicine and Politics: A 17th Century Episode: CHARLES F. MULLETT 195
A Note on the Antiquity of the Adreno-Genital Syndrome: HARRY KEIL 201
A. A. Berthold and the First Endocrine Experiment: Some Speculation as to its Origin: THOMAS R. FORBES 263

BIBLIOGRAPHIES

A Bibliography of Anatomical Books Published in English before 1800: K. F. RUSSELL 268
Bibliography of the History of Medicine of the United States and Canada—1948: WHITFIELD J. BELL, JR. 494

AMERICAN ASSOCIATION OF THE HISTORY OF MEDICINE:

Twenty-Second Annual Meeting, Lexington and Danville, Kentucky, May 22-24, 1949 583

MEDICO-HISTORICAL NEWS AND ACTIVITIES

Josiah Charles Trent: HOWARD DITTRICK 95
A Tribute to Arturo Castiglioni on the Occasion of His 75th Birthday: IAGO GALDSTON 203
The Jenner Bicentenary: W. R. LEFANU 419

Announcements 101, 204, 307, 420, 518, 611

BOOK REVIEWS 107, 206, 309, 424, 521, 615

INDEX OF NAMES 631

MEDICAL LIBRARY

MAY 31 1949

BULLETIN OF THE HISTORY OF MEDICINE

ORGAN OF THE AMERICAN ASSOCIATION OF THE HISTORY OF MEDICINE AND THE JOHNS HOPKINS INSTITUTE OF THE HISTORY OF MEDICINE

Founded by HENRY E. SIGERIST

Editor—OWSEI TEMKIN

VOLUME XXIII JANUARY–FEBRUARY, 1949 NUMBER 1

CONTENTS

MAIN ARTICLES

Medicine and the Problem of Moral Responsibility: OWSEI TEMKIN 1

John and William Hunter and Some Contemporaries in Literature and Art: JANE M. OPPENHEIMER 21

The First Description of Yellow Fever: Joam Ferreyra da Rosa's *Trattado Unico da Constituiçam Pestilencial de Pernambuco*: KARL A. BAER 48

TEXTS AND DOCUMENTS

Jacme d'Agramont: *Regiment de Preservacio a Epidimia o Pestilencia e Mortaldats.* Translated by M. L. DURAN-REYNALS and C.-E. A. WINSLOW 57

NOTES AND COMMENTS

The Library of the Madras Medical College: D. V. S. REDDY 90

MEDICO-HISTORICAL NEWS AND ACTIVITIES

Josiah Charles Trent: HOWARD DITTRICK 95

Announcements 101

BOOK REVIEWS 107

THE JOHNS HOPKINS PRESS

BALTIMORE 18, MARYLAND

BULLETIN OF THE HISTORY OF MEDICINE

ORGAN OF THE AMERICAN ASSOCIATION OF THE HISTORY OF MEDICINE AND THE JOHNS HOPKINS INSTITUTE OF THE HISTORY OF MEDICINE

Editor—OWSEI TEMKIN

Correspondence relating to the publication of papers should be addressed to The Editor, Bulletin of the History of Medicine, 1900 East Monument Street, Baltimore 5, Maryland, U. S. A.

Twenty-five reprints without covers will be furnished to contributors free of cost. An order slip for additional reprints, giving the cost, is sent with the galley proof to each contributor and must be returned immediately to the Editor.

The journal is published bimonthly. One volume of at least 500 pages is published during the year.

Beginning with Volume XXIII, No. 1 (January-February, 1949) the subscription rate is $6.00 a year in the United States and its possessions; $6.25 in Canada; and $6.50 in other foreign countries. Single numbers, when available, will be $1.25 each. Members of the American Association of the History of Medicine receive the Bulletin on payment of $6.00 annual dues, of which $5.00 are for a year's subscription to the Bulletin.

This journal will publish book reviews, and publishers are requested to send review copies to the Editor.

Volumes III-VIII and XXI-XXII of the Bulletin of the History of Medicine are available through the Johns Hopkins Press for $5.00 a volume, Volumes IX-XX for $2.50 each. Single numbers (if available) are $1.00 each. Volumes I-II are out of print.

Supplements to the Bulletin are published at irregular intervals and are sold individually, subscribers to the Bulletin being granted a reduction of price. Standing orders for the whole series of Supplements may be addressed to

THE JOHNS HOPKINS PRESS

BALTIMORE 18, MARYLAND, U. S. A.

PUBLISHED BIMONTHLY

January-February, March-April, May-June, July-August, September-October, November-December

Made in United States of America

Entered as second-class matter January 3, 1935, at the post office at Baltimore, Maryland, under the Act of March 3, 1879.

BULLETIN OF THE HISTORY OF MEDICINE

ORGAN OF THE AMERICAN ASSOCIATION OF THE HISTORY OF MEDICINE
AND THE JOHNS HOPKINS INSTITUTE OF THE HISTORY OF MEDICINE

Founded by HENRY E. SIGERIST

Editor—OWSEI TEMKIN

VOLUME XXIII JANUARY-FEBRUARY, 1949 NUMBER 1

MEDICINE AND THE PROBLEM OF MORAL RESPONSIBILITY [1]

OWSEI TEMKIN

While I was pondering over a suitable subject for tonight's presentation, Mephistopheles must have stood close behind me. For reasons best known to him he made me constantly think of that scene in Goethe's Faust where he gives advice to Faust's pupil about academic studies. His speech is full of libels and deceit, especially when he discusses medicine, a profession which he seems to favor beyond all others. Why should the Devil like medicine? Perhaps, I told myself, because he hopes to get hold of the doctor, to make him an atheist and blind towards man's moral responsibilities. Is it not true that the physician is not expected to censure his patients for the sins or virtues that may have caused sickness? The doctor is supposed to cure the disease, saintliness or vice are either beside the point or merely indirect factors. At any rate, I decided to take this idea for my theme and to investigate the relationship between medicine and moral responsibility a little further.

Even a superficial glimpse at the history of medicine suggests that the attitudes towards responsibility for disease have varied. Theologians, philosophers and common people very often have been inclined to view

[1] Paper read before the History of Ideas Club, The Johns Hopkins University, on January 8, 1948.

sickness primarily from a moralistic point of view. Nor have physicians always excluded this point of view from their approach to the sick. You will permit me to concentrate upon the physicians' side of the picture and you will excuse me if I try to sketch a few typical attitudes rather than follow their development in a detailed and strictly chronological account.

If we were to pursue our thought along purely speculative lines, we should probably expect the concept of disease as guilt, or more specifically as sin, to antedate any other. But the language of the oldest medical texts from Mesopotamia and Egypt is not clear on this point. In the Assyrian and Babylonian medical tablets various diseases are treated by drugs and the recital of incantations. Charms and incantations are indicative of a moral concept of disease, though perhaps in the primitive form of a mere ritualistic trespass. If gods, spirits or demons are invoked to relieve the disease, these or similar powers are assumed to have caused it or at least permitted it. Somehow and somewhere, the sick individual must have exposed himself to these influences by breaking a law or overlooking a taboo. But I wonder whose practices the so-called medical texts from Mesopotamia reflect. The letter of the physician Arad-Nanā [2] and the medical paragraphs of the Hamurabi Code speak a very worldly language. Their tone is more consonant with the Edwin Smith surgical papyrus which originated in Egypt around 2800 B. C. and presents a series of surgical cases where the disorder (mostly injuries) is described and treated rationally. Incantations only occur exceptionally. But the form of the Egyptian papyri which set forth typical cases rather than a coherent medical theory, makes it hard to tell what the physicians thought.

I find myself unable to decide what attitude was first assumed by physicians. The whole question is intimately connected with the early relationship of priestcraft and medicine, a question on which we possess little evidence. Here perhaps, as so often, it will be wiser not to argue from hypothetical origins but to analyze a mature situation. Such a situation existed in ancient Greece at the time of the Hippocratic physicians, that is about 400 B. C. In the so-called Hippocratic collection, or at least in some of its writings, we find the very clear statement that the gods do not cause disease, and that purifications and similar rites have no place in medicine. All diseases are natural, and their treatment consists in prescribing a detailed regimen with special emphasis upon right food, proper drugs and, if necessary, surgical manipulation. In fractures, dislocations and wounds the latter of course stand in the foreground.

[2] Cf. Ch. Johnston, "The epistolary literature of the Assyrians and Babylonians," *Journal of the American Oriental Society*, 1897, vol. 18, p. 162 f.

There is no doubt that the Hippocratic attitude constitutes a fundamental element in medical philosophy. Even today a majority of doctors and laymen will probably agree that it represents just that attitude which is to be expected from a medical man. But upon closer scrutiny it reveals implications and complexities which can lead to divergent interpretations. The formula " disease is a natural process " is as yet undefined regarding the relationship of " nature " to human life and the extent of the concept of " disease."

In the first place the question arises as to how the patient's life and his disease are connected. There is, above all, the loose link to which we give the name of " accident." Here we are immediately reminded of broken arms and legs, dislocated joints, and wounds, disorders which belong to the domain of surgery. Indeed it is in the surgical books from the Egyptian Papyrus Smith down to our own textbooks of surgery that we find this idea most clearly pronounced. Now when we consider the occurrence of a disease as an " accident " we imply that the ordinary life of the individual and the cause of the disease had no inner connection, or at least, that no such connection can or need be established.

Of more far-reaching commitment is the view according to which disease comes as " fate," not inevitable perhaps, but at least outside the individual's power and responsibility. Significantly enough, such an explanation is offered in both Hippocratic works which deny the divine character of certain diseases and claim that all diseases are equally divine because, as we should add, they are all ruled by the laws of divine nature. In one of these works, which deals with epilepsy, the author states that " its origin is hereditary, like that of other diseases." [3] In the other one it is national custom which causes many Scythians to become sterile. Since the wealthy among them practically live on horseback, they develop diseases of the joints which they treat by bleeding from a vein behind the ear, and this, in turn, causes impotence. The poor do not develop the disease because they do not ride. The author uses this as an argument against the belief of the Scythians that sterility is a punishment by a god. In that case, the incidence ought to be reversed, since the rich have better means of placating the gods than the poor.[4]

Neither heredity nor national custom can be blamed upon the patient who is in the physician's care. Epidemics and endemic diseases can also

[3] " On the sacred disease "; *The genuine works of Hippocrates*, transl. Francis Adams, 2 volumes in one, New York, W. Wood, 1892, II, p. 338.

[4] " On airs, waters, and places," ch. 22; *ibid.*, I, p. 178 f.

be included in this group of diseases brought on by fate. According to the Hippocratics, they are engendered by polluted air or by the climatic and geographical constitution of a country. And since the condition of the air, the character of the seasons, winds and soil were believed to be influenced by the sun and moon, by the constellations of the stars and the course of the planets, epidemics fitted particularly well into the astrological picture of the middle ages and the renaissance. Astrology has always been accused of fatalism. The astrological explanation of epidemics meant their removal from the scene of human activity. We must not be diverted by the fanciful and demonistic side of astrology from recognizing the essential element of this astrological explanation. Paracelsus, in the sixteenth century, numbered the "ens astrale" among the five principal entities that were involved in man's health and disease. By the "ens astrale" Paracelsus did not mean the alleged direct influence of individual stars or constellations. To him it symbolized the fact that human health is subject to the great revolutions of the universe, to the changes of seasons, to special conditions which might exist in the history of heaven and earth and rule over the coming and going of epidemics.[5] In less offensive form, these views were still dominant less than a hundred years ago. The great *Handbook of Geographical and Historical Pathology* by August Hirsch, the second edition of which appeared in the early eighties when the old epidemiology was being revolutionized by the discoveries of bacteriology, still discussed telluric phenomena like winds, rainfall, and condition of the soil in their association with epidemic diseases. With a renewed change of emphasis and a very much advanced knowledge, our own time also accepts the subjection of the individual to factors like heredity, social necessities and epidemics as outside of his control.

As long as diseases are considered as accident or fate, the problem of individual responsibility is avoided. However, I cannot think of any period in the history of medicine that succeeded in relegating all diseases to either of these two categories, least of all the period of ancient medicine. According to the Greek physicians who were followed by the Romans, the Arabs and occidental doctors, sickness, to a large part was the result of dietary mistakes. The Hippocratic author who distinguishes two kinds of fevers says of the first kind that it befalls everybody and is called pestilence. "The other one," he adds, "which is due to unwholesome diet, arises individually in those who live an unwholesome manner of life."[6]

[5] Cf. J. D. Achelis, *Paracelsus, Volumen Paramirum*, Jena, Diederichs, 1928, p. 6.

[6] "On winds," ch. 6; E. Littré, *Oeuvres complètes d'Hippocrate*, t. 6, Paris, 1849, p. 96-98.

But the manner of life is within the power of the individual, at least of the man who does not have to earn a living and can follow the dictates of his physician. If he becomes sick, he has himself to blame for it. The whole abundant development of ancient dietetic medicine with its stress on personal hygiene is, as Dr. Edelstein has shown,[7] intimately connected with the insistence on the side of the physicians that disease can and must be prevented, and the willingness of the laity, on the other hand, to acknowledge health as one of the highest, if not the highest, good. Here is the point where the ancient physician became a moralist and assumed the right to criticize people for their way of life. But we must immediately add that crime and punishment were of the same category. The crime consisted in having neglected the rules of health; disease or painful treatment were the punishment.[8] It is even doubtful whether such censorship can rightly be called moral. As long as man is accountable for his health to himself alone, he can harm himself but hardly inculpate himself thereby. An immoderate eater may concede that he acts unwisely, but he will probably resent being called a sinner.

2.

The physician entered the medieval world as the advocate of the body.[9] There is a curious passage in Psellus' *Dialogue on the Operation of Daemons*, a work written in the 11th century and fundamental for medieval demonology. One of the persons of this dialogue tells how the monk Marcus explained to him the symptoms caused by the assault of subterranean demons.

"But Marcus," said I, "physicians persuade us to be of another way of thinking, for they assert that such affections are not produced by daemons, but are occasioned by an excess or deficiency of humours, or by a disordered state of the animal spirits, and accordingly they endeavour to cure them by medicine or dietetical regimen, but not by incantations or purifications." Marcus replied: "It is not at all surprising

[7] Ludwig Edelstein, "Antike Diätetik," *Die Antike*, 1931, vol. 7, pp. 255-270; Emma J. Edelstein and Ludwig Edelstein, *Asclepius*, vol. 2, Baltimore, The Johns Hopkins Press, 1945, p. 123.

[8] The idea of painful treatment as punishment is to be found in Plato's "Gorgias." 479a.

[9] There is a passage in the so-called "Anonymus Londinensis" which stresses the chief concern of medicine with the body. Cf. W. H. S. Jones, *The medical writings of Anonymus Londinensis*, Cambridge University Press, 1947, p. 83. On the other hand, Dr. Edelstein, in a personal communication has reminded me that a spiritual element is inherent in the tradition of the Hippocratic "Oath" and the relationship of ancient medicine to the cult of Asclepius.

if physicians make such an assertion, for they understand nothing but what is perceived by the senses, their whole attention being devoted to the body." [10]

I do not quote this passage in order to prove that during the middle ages physicians were reputed to explain possession as disease, i. e. a natural process. Rather I wish to illustrate the new light in which this explanation makes the physician appear. He knows of the body only, and is ignorant of the spiritual order in which disease, as a natural process at least, has no place. On the contrary, it has now become possible to reverse the position and to suggest that even disease of the body is but a manifestation of the spiritual and moral world. I do not know how far back these attempts go, they seem to have grown out of the theological interpretation of the Bible, particularly the miraculous cures of Christ. With Origines and the early Fathers of the Church it has become customary to read a general religious truth into these cures, quite beyond their isolated historical occurrence. The widest possible meaning could be given to the passage of chapter 5 of St. John's which tells of Christ meeting a man whom he had cured from an old sickness and telling him: "Behold, thou art made whole: sin no more, lest a worse thing come unto thee." [11] At the 4th Lateran Council of 1215, Pope Innocence III ordained that the physician was bound to insist that his patients confess. This decree which threatened the disobedient physician with excommunication was, as Diepgen has shown, influenced by the concept of disease as originating from sin.[12] Confession was necessary not only because of the eventuality of a fatal outcome, but because the patient might recover when his sin was removed. Nor was the sin the only possible spiritual cause of disease. According to the theologians, disease might have been sent for any of the following reasons: To enhance the merits of the just through their patience, to safeguard virtue from pride, to correct the sinner, to proclaim God's glory through miraculous cures and, finally, as the beginning of eternal punishment as in the case of Herod. This concept did not remain uncontradicted; it was also contended that God's judgment in sending disease was unfathomable.[13] But the list proves that all and every disease could conceivably be interpreted as a corporeal manifestation of the relationship between God and man and this meant of man's spiritual and moral life. Disease could be the fate of the just and of the sinner

[10] *Psellus' dialogue on the operation of daemons*, translated into English by Marcus Collisson, Sydney, Tegg, 1843, p. 35.

[11] Cf. Paul Diepgen, *Die Theologie und der ärztliche Stand*, Berlin-Grunewald, Rothschild, 1922, p. 52.

[12] *Ibid.*

[13] *Ibid.*, footnote 290.

as an individual or as a group, but fate of a higher order than heredity, national custom or polluted air.

It is obvious that physician and patient alike were now confronted with a situation different from that of pagan antiquity. Was the patient morally bound to lead a healthy life and to call the physician in case of sickness? The answers varied according to the prevailing degree of asceticism. Yet there was a side which gave a very emphatic "yes" to these questions. The body was the dwelling of the soul and man, therefore, was in duty bound to take care of it. Besides, did not the Bible say: "Honor a physician with the honor due unto him?" [14] In this light, man's obligation to health assumed a new moral character. Sickness was to be prevented, not because health was good in itself, as the ancients said, but because man was accountable to God for his body.

In spite of martyrs and saints, I do not believe that medieval men clung less to life than people of other epochs. But the lust for life needed a rationalization which would bring it into harmony with the prevailing religious and metaphysical outlook. This rationalization found its proper form by elevating health from a natural good to a moral duty. It would be altogether erroneous to assume that the religious spirit of the middle ages always acted as an impediment upon medicine. But there is no denying that the physician was confronted with a dilemma. Should he reckon with the sinner or saint in his patient? No uniform answer was given; the attitudes changed with circumstances and individuals, and a few examples can only serve to illustrate the variety.

To take confession first: It was an obvious thing that a man had to confess before his death. Whether the physicians always considered it *their* duty to insist upon confession is doubtful, and whether they expected recovery from it is highly questionable.[15] However, the problem of confession occupied the physician's mind too, as evinces from the following advice which a Salernitan author of the late 12th century gives to the doctor who is summoned to a sick-bed:

> Thus when you approach his [i. e. the patient's] house and before you go near him, inquire whether he has laid open his conscience to a priest. If he has not done so, he should either do it or promise to do it. For if mention is made of it after the patient has been seen and the signs of the disease considered, he will begin to despair over his recovery because he will believe that you too despair of it.[16]

---

[14] Ecclesiasticus, ch. 38. Cf. also Diepgen, *op. cit.*, pp. 7 ff. and 12 ff.

[15] Cf. Diepgen, *op. cit.*, p. 48 ff.

[16] "De adventu medici ad aegrotum," S. De Renzi, *Collectio Salternitana*, Vol. 2, Napoli, 1853, p. 74.

Plague and leprosy were two of the great scourges of medieval Europe. The plague was God's whip, but its victims were not ashamed before man; the lepers, on the other hand, were loved by God but hated by men. If their disease was recognized, their fate became a sad one, for they were segregated from the community of their fellow citizens. Guy de Chauliac, the French surgeon of the 14th century, tells the physician how to proceed in his examination of suspected lepers:

> In the first place, invoking the help of God, he must comfort them with the thought that this disease means salvation of the soul and that they must not hesitate to tell the truth. For if they are found to be lepers, their souls are already in purgatory, and if the world hates them, not so does God who loved Lazarus the leper more than the others. If, however, they are not found to be lepers, they will be left in peace. Then he should make him swear to answer the questions truthfully.[17]

Here the physician conformed to the religious view and used it as a means of recognizing the case.

At the end of the 15th century, Europe became acquainted with a new disease, syphilis. The physicians knew that syphilis was a natural process like any other disease of the body. Yet by 1520 it was becoming clear that in the majority of cases it was due to a venereal infection and, therefore, to an act of sin. Should the physician reckon with the moral responsibility of his patient? I cite two answers that were given, one positive and one negative. For the understanding of the first answer it has to be remarked that in the 16th century the most widely used treatment of syphilis consisted in an intensive application of mercury pushed to the degree of more or less severe mercurial poisoning and causing great suffering, sometimes even the death of the patient. In 1527 Jean de Béthencourt published a work on syphilis under the significant title of "A new lent of penitence." He writes concerning the disease:

> It never yields but under the influence of a medication which imposes upon the body the chastisement of its impurity and upon the soul the punishment of its sins.[18]

How different was the answer given in 1673 by Thomas Sydenham, the greatest English physician, when he had to justify writing on the treatment of venereal disease.

> As a preliminary, however, I must remark that I have met with many persons who, either from the praiseworthy desire of terrifying the unchaste by the fear of future

[17] *Ars chirurgica*, Venetiis apud Iuntas, 1546, fol. 58 v.

[18] J. de Béthencourt, *Nouveau carême de pénitence*, transl. A. Fournier, Paris, 1871, p. 55. Cf. also O. Temkin, "Zur Geschichte von 'Moral und Syphilis,'" *Arch. Gesch. Med.*, 1927, vol. 19, pp. 331-348.

trouble, or for the sake of claiming credit for continence on their own part, have not hesitated to argue that the cure of the *venereal disease* should not be taught. With such I disagree. If we reject all cases of affliction which the improvidence of human beings has brought upon themselves, there will be but little room left for the exercise of mutual love and charity. God alone punishes. We, as we best can, must relieve. Neither must we be too curious in respect to causes and motives, nor too vexatious in our censorship.

Hence I will state what I have observed and tried in the disease in question; and that not with the view of making men's minds more immoral, but for the sake of making their bodies sounder. This is the business of the physician.[19]

Sydenham was no atheist. He had fought in Cromwell's army and we can credit him with puritan leanings. Although he was not the first to express views like the above, his statement, because of its clarity and the authority of his name, carries additional weight. If the physician was accused of being ignorant of the spiritual world, he might reply that his exclusive concern for the body was not a result of ignorance, but of a charity which dispensed to friend and foe, which connected the ancient idea of philantropy towards sick and poor [20] with the Christian ideal of neighborly love as exemplified by the good Samaritan.

3.

It will have become clear that the problem of moral responsibility for disease as presented to the physician is connected with the ethical responsibility of the physican towards his patient. Without entering upon a discussion of medical ethics [20a] I should like to pursue a more general line of thought. So far it has appeared that society again and again felt the need for the existence of a profession which would view the lives of their fellow men without regard to right and wrong. To be sure, there were limits and safeguards, not only religious ones, but civil ones as well. The medieval surgeon, for instance, was bound to bring injuries to the attention of the magistrates so that crime might not remain undetected.[21] Similar laws exist today. But within the legal limits, as we have seen, the

[19] *The works of Thomas Sydenham*, transl. R. G. Latham, vol. 2, London, The Sydenham Society, 1850, p. 32 f.

[20] Cf. Edelstein, *Asclepius*, *loc. cit.*, p. 175.

[20a] I am very conscious of the fact that a comprehensive discussion of "medicine and the problem of moral responsibility" would have to include medical ethics. However, a thorough analysis of this aspect would have gone beyond the scope of the present paper.

[21] For the surgeons of medieval Paris, e. g. cf. the documents quoted by E. Nicaise, *Chirurgie de Maitre Henri de Mondeville*, Paris, Félix Alcan, 1893, p. lxiii. Cf. also I. Fischer, *Ärztliche Standespflichten und Standesfragen*, Wien-Leipzig, Braumüller, 1912.

physician was neither compelled nor expected to act as a moral inquisitor. This does not present any particular problems as far as antiquity is concerned. In the first place, ethics and nature were not opposed to each other. To many ancient philosophers and physicians health constituted a life led in accordance with divine nature and the physician's sole concern with health still remained within the boundaries of the divine. Nor must it be forgotten, that most ancient physicians were traveling craftsmen, sometimes even slaves. Greek and Roman patricians might entrust their bodies to the physician's skillful supervision, but it is not likely that they would allow the socially inferior to meddle with whatever conscience they possessed. The physician, in his turn, was little interested in the morals and social institutions of the foreign city in which he happened to exercise his trade.[22] This explains the rather remarkable fact that we find hardly any traces of interest in public health in ancient medical literature. Public health was the responsibility of city magistrates and emperors who employed public physicians of whose functions, incidentally, we know very little.[22a]

But in the middle ages, the situation was vastly changed. As a Christian, the physician was a member of the spiritual community that embraced all. As a doctor of medicine, he was even a member of the university which resolved religious, metaphysical and legal issues. How, then, could the physician exempt himself from the interest in the soul? In principle, at least, I think that the question was decided on the basis of a hierarchy of knowledge. The doctor, the "physicus," was a philosopher in the realm of nature. Natural philosophy was a legitimate, but not the highest branch of knowledge. Supremacy went to theology. "In as far as the soul is more precious than the body, in so far the priest must be held in higher respect than the physician of the body." [23] Not being a theologian, the physician need not possess the higher knowledge. But as a consequence he must refrain from interfering where somatic disease ceases and moral guilt begins.

During the middle ages this arrangement seems to have worked to some degree. Most physicians accepted the situation as a matter of course.

[22] There are, however, interesting exceptions to this rule, for instance Soranus' explanation of the frequency of rickets in Rome (*Sorani Gynaeciorum libri IV*, ed. I. Ilberg, Lipsiae et Berolini, Teubner, 1927, p. 85).

[22a] Cf. Owsei Temkin in: *Social medicine, its derivations and objectives.* The New York Academy of Medicine institute on social medicine, 1947. Ed. by Iago Galdston. New York, Commonwealth Fund, 1949, p. 5.

[23] Cf. Diepgen, *op. cit.*, p. 9.

Others accepted it grudgingly or derisively, but I do not know of any major rebellion. After the breakdown of the medieval hierarchy the situation did not change much. Even the Cartesian philosophy which exerted a very great influence upon medical science was not favorable towards removing the barrier between the mechanical machine, i. e. the body, and the moral liberty of the soul. It did away with the ancient and medieval theory of a natural soul that resided in the liver and regulated our appetites, and a vital soul in the heart that accounted for such emotions as anger and wrath. It left the rational soul as the only soul and thereby it deepened rather than bridged the gulf between disease and moral responsibility. The Cartesian view, where strictly applied, could not conceive of a psychological causation of disease, nor could it even admit a disease of the mind. I mention these implications of Cartesianism, since, avowedly or—more often—by implication, this philosophy was not confined to the 17th century, but can be found among scientists of the 19th and even the 20th century.

However, the relationship between medicine and moral responsibility is not only dependent on philosophical views. As already indicated it is also determined by the social position of the doctor. As long as the organization of society was predominantly feudalistic or aristocratic, the physician, to some extent, was still in the position of his ancient colleague who was merely required to render certain services. Medicine fulfills a social function. Medicine and society, therefore, must meet on a common field so as to speak the same language. In scientific and technical knowledge the physician will be much superior to his patient. But fundamentally both must agree on what should be considered disease and health, otherwise they can hardly get together. But as long as the doctor did not belong to those strata of society that expressed accepted standards, his views were determined by the tradition of his profession and the varying circumstances in which he found himself. As an example I should like to mention a peculiar type of literature that was popular among medical authors up to the 17th century, viz. the allegorical and moral interpretation of the parts, functions and diseases of the human body. We find this topic treated in the *Monstrorum Historia* of the physician and zoologist Ulysses Aldrovandi. The particular section starts with a paragraph on "The mystical meaning of the parts of the human body" and ends with a paragraph "On morals derived from human diseases." Aldrovandi remarks:

. . . Just as the pulse is diligently examined by the physicians, that the affections of the heart may be known, so the moral physicians—the prince or a dynast, of

course—must sometimes examine the pulses of the subjects carefully enough to recognize the dispositions of their hearts and to draw back from the wrong course those that are functioning badly. Or indeed the name of moral physician may be assigned to the confessor who must observe the pulses of the penitents with great industry, that he may be able to understand the intimate dispositions of their hearts. Therefore, the chief afflictions which ruin the human body must now be examined in as far namely as they submit to the moral doctrine. Beginning therefore with the diseases of the head, we shall first consider patchy loss of hair which arises when acrid humors erode the roots of the hairs. The head is the Prince and the hairs are the people subject to his power. Thus, when the hairs, i. e. the subjects, are infected by bad humors, namely by the bad example of the princes, then they immediately fall into decay and become loose. General baldness too is produced by falling hair and may connote loss of virtues produced by the violence of sin. Just as a youth whom baldness befalls can again acquire hair, while an old man is freed from baldness with difficulty or not at all, in like manner the youth, bald of his lost virtues, is through the power of penitence again decorated with the hairs of virtue. An old man attains this with difficulty, since the faults of old people seem to be incorrigible. For in the proverbs we have this sentence: "Train up a child in the way he should go; and when he is old, he will not depart from it.[24]

In this recital medicine is used purely allegorically. Medicine is still of the body. Not the medical man, but the priest and above all the prince is the moral physician who watches over diseases in the state and takes appropriate measures to root them out. If anything, then, it is indicative of the autocratic regime of the Italian states in which its author lived.

In the late 17th and then in the 18th century, concomitant with the rise of Enlightenment, the physicians, who were mostly members of the middle classes, moved into social conditions where they and their fellow citizens could claim to set the tone. It could hardly fail that the morality of their own class would now also express itself in their views of moral responsibility for disease. The physicians were notoriously protagonists in the fight for enlightenment which abolished not only demons, witches and occult powers of nature, but also tended to introduce a new moral tone wherever it became independent from aristocratic predominance. The doctors had been traditionally unbelievers in the demons which had frightened medieval man.[25] But they became early crusaders against the vices by which people were in danger of destroying themselves. Benjamin

[24] Ulysses Aldrovandi, *Monstrorum historia*, Bononiae, 1642, p. 256. For an interesting moral interpretation of the plague cf. C.-E. A. Winslow and M. L. Duran-Reynals, "Jacme d'Agramont and the first of the plague tractates," *Bull. Hist. Med.*, 1948, vol. 22, p. 761 ff.

[25] Cf. A. Franz, *Die kirchlichen Benediktionen im Mittelalter*, vol. 2, Freiburg i. Br., 1909, p. 525 ff.

Rush's fight against alcoholism may serve as an example of what is meant. In his *Inquiry into the Effects of Ardent Spirits upon the Human Body and Mind*, he designated drunkenness as a disease and described its natural history.

It belongs to the history of drunkenness to remark that, its paroxysms occur, like the paroxysms of many diseases, at certain periods, and after longer or shorter intervals. They often begin with annual, and gradually increase in their frequency until they appear in quarterly, monthly, weekly, and quotidian or daily periods. Finally they afford scarcely any marks of remission either during the day or the night. There was a citizen of Philadelphia many years ago in whom drunkenness appeared in this protracted form. In speaking of him to one of his neighbours, I said, "does he not *sometimes* get drunk?" "You mean" said his neighbour, "is he not *sometimes* sober?"[26]

Yet the disease, alcoholism, is itself a vice. Not only does it lead to criminal actions, but by destroying his health the drunkard ranges with the suicide.

Yes—thou poor degraded creature, who art daily lifting the poisoned bowl to thy lips—cease to avoid the unhallowed ground in which the self-murderer is interred, and wonder no longer that the sun should shine, and the rain fall, and the grass look green upon his grave. Thou art perpetrating gradually, by the use of ardent spirits, what he has effected suddenly by opium—or a halter. Considering how many circumstances from surprise, or derangement, may palliate his guilt, or that (unlike yours) it was not preceded and accompanied by any other crime, it is probably his condemnation will be less than yours at the day of judgment.[27]

By necessity, therefore, the treatment which Rush has to offer is both moral and physical. It is also characteristic that he feels the necessity to justify treating such a disease and that his apology is very similar to that of Sydenham a hundred years before:

I am aware that the efforts of science and humanity, in applying their resources to the cure of a disease, induced by an act of vice, will meet with a cold reception from many people. But let such people remember, the subjects of our remedies, are their fellow creatures, and that the miseries brought upon human nature, by its crimes, are as much the objects of divine compassion, (which we are bound to imitate) as the distresses which are brought upon men, by the crimes of other people, or which they bring upon themselves, by ignorance or accidents.[28]

---

[26] Benjamin Rush, *An inquiry into the effects of ardent spirits upon the human body and mind*, fourth edition, Philadelphia, n. d., p. 9.

[27] *Ibid.*, p. 16 f.

[28] *Ibid.*, p. 39 f. Percival, in 1803, wrote: "Yet whoever reflects on the variety of diseases to which the human body is incident, will find that a considerable part of them are derived from immoderate passions, and vicious indulgencies. Sloth, intemperance, and

Rousseau likewise made himself felt. At the turn of the century, for instance, Thomas Beddoes published a book with the significant title: *Hygeia, or Essays Moral and Medical, on the Causes Affecting the Personal State of Our Middling and Affluent Classes* in which "the vulture of fashion," too much reading of novels, etc., are made accountable for all manners of conditions which we now should call neurotic.

The characteristic element of these examples can be seen in the belief that many diseases have their origin in an immoral or misguided inclination of the free individual. It is, therefore, not enough to treat the consequences of vice, ignorance and wrong upbringing. In some cases the treatment itself must include moral correction. But beyond this, the physician must combat conditions that make these diseases possible. Whatever his attitude towards the suffering patient may be, the physician as a responsible member of society cannot remain silent where the lives of others are threatened. He must educate, he must enlighten and he must interest himself in public health.

Dr. Sigerist has analyzed the rise of the public health movement since the 18th century and the various forms it assumed.[29] It is not in the scope of this paper to dwell on its history as such. Only the factors connecting it with the moral responsibility for disease have to be elucidated. And I see three such factors. First, the expansion from the patient's responsibility to the responsibility of statesmen, educators, churchmen and other social, political and religious functionaries. This recognition of responsibility had probably never been lacking; but it had formerly been restrained by the knowledge that the initiative had to come from above. Even in the 18th century, a man like Johann Peter Frank expected the Government to enforce health regulations down to minute details. But now, and this is the second factor, social conditions had matured to such a degree that the doctor could no longer stand aside. The third factor which emerged very slowly was an increasing body of facts which made an active intervention look promising

In an early part of this paper I mentioned disease as fate. But fate in medicine is relative since it depends on our actual ability of prevention and treatment. With regard to epidemic diseases this ability was slight in

irregular desires are the great sources of those evils, which contract the duration, and imbitter the enjoyment of life. But humanity, whilst she bewails the vices of mankind, incites us to alleviate the miseries which flow from them" (Thomas Percival, *Medical ethics*, Manchester, 1803, p. 24).

[29] Henry E. Sigerist, *Medicine and human welfare*, New Haven, Yale University Press, 1941, p. 78 ff.

antiquity and the middle ages in spite of the endeavors of town physicians and magistrates. Not because of lack of good will but largely because of insufficient scientific knowledge. As soon as the mechanism of the transmission of a disease became sufficiently known to allow intervention, fate gave way to responsibility. The history of the gradual conquest of epidemic diseases is too well known to require repetition. The point which deserves mentioning is the changed attitude which medicine developed towards these responsibilities. A hundred years ago, Rudolf Virchow wrote: " Epidemics resemble great warnings from which a statesman in the grand style can read that a disturbance has taken place in the development of his people, a disturbance which not even a carefree policy may longer overlook." [30] These words are somewhat reminiscent of Aldrovandi's medical allegories, but for Virchow and his contemporaries they conveyed anything but an allegorical meaning. If the statesman continued to overlook the warnings, then political pressure had to be exerted to make him change his policy. From the end of the 18th century, the responsibility for disease has become an ever larger part in national as well as international political life.

The suppression of epidemics through special measures like vaccination and general sanitary improvements produced such dramatic results that these diseases, by the middle of the 19th century, were much more strongly connected with the idea of human responsibility than those showing a sporadic incidence. To be sure, there were occupational diseases and industrial hazards against which workers had to be protected. There was also a group of diseases that might be prevented by proper physical and mental education. Yet in between there remained the large group of diseases for which neither the patient nor any social conditions could be held responsible, which crossed the life of the individual as mere accidents. In 1847 Virchow made the following interesting remark. Speaking about teleology in pathology, he maintained that at best this approach could be applied to the healing processes.

> But if one wishes to extend this method to the entire morbid processes, then one logically arrives at the point where one establishes diseases as consequences of original sin or as punishments of a personal grudging deity, just as one looked for the purpose of the world in the glorification of a god who took pleasure in it. There just is no purpose to be discovered in somebody's developing a tumor. This is, as we use to say, an *accident*, an aimless event by which in the animal body the orderly

[30] Rudolph Virchow, *Gesammelte Abhandlungen aus dem Gebiete der öffentlichen Medicin und der Seuchenlehre*, Bd. 1, Berlin, 1879, p. 22. Cf. also Erwin H. Ackerknecht, " Hygiene in France, 1815-1848," *Bull. Hist. Med.*, 1948, vol. 22, p. 141 f.

course of a series of phenomena is stimulated, the visible result of which is the tumor. Pathogenesis, therefore, can have no other task but to acquaint itself with that accident and to explore the laws according to which the subsequent phenomena take their course.[31]

Virchow is such an outstanding figure in medical science of the 19th century that I cannot resist the temptation of dwelling upon the unique integration of scientific, medical and political thought which he represented. Virchow is the founder of cellular pathology, that is the theory which envisages disease as being seated in the cells. In politics, Virchow was a liberal and Hirschfeld has pointed out how his liberal opinions found their analogy in his pathological theories.[32] According to Virchow, the human body and the body politic have the same pattern. The cells are the elements of the body; if the cells are healthy, the body too is healthy, whereas disease can be resolved into a diseased state of cells. Similarly, the citizens represent the elements upon whose good or bad behavior the fate of the state rests. In addition, however, Virchow's liberal views extended in two other directions. As a German liberal he stood in opposition to the autocratic government of the princes and later of Bismarck. This led him and many other German physicians in 1848 to make medical reform a part of the program for general political reform.[33] But as a liberal of the mid-19th century, Virchow was also inclined to see the world and human life as a free interplay of forces. He formulated disease as life under changed circumstances, but in the individual sphere these changed circumstances were accidental. There is a certain parallelism between such a view in pathology and in general biology where Darwin made new species develop out of accidental changes furthered or suppressed by natural selection.

However this may be, disease as accident was, and is, a very fruitful point from which to view and investigate the mechanism of disease. It reached its climax at the heroic period of bacteriology. Many early bacteriologists accepted a very simple formula: When man and germ happen to meet, disease will result. Once the mode of infection was known, individuals could be taught how to protect themselves and others effec-

[31] Rudolf Virchow, "Ueber die Reform der pathologischen und therapeutischen Anschauungen durch die mikroskopischen Untersuchungen," *Virchows Archiv*, 1847, Bd. 1, p. 230 (Italics mine).

[32] Ernst Hirschfeld, "Virchow," *Kyklos*, 1929, vol. 2, p. 115.

[33] Cf. Erwin H. Ackerknecht, "Beiträge zur Geschichte der Medizinalreform von 1848," *Arch. Gesch. Med.*, 1932, vol. 25, pp. 61-109 and 113-183.

tively. If they failed to act accordingly, they certainly could be blamed.[84] Yet there was no inner connection between irresponsible behavior and subsequent disease. The latter took its course regardless of all human conflicts. The physician, therefore, need not let morals enter into his treatment. This view prevailed, a fortiori, with regard to diseases which were not transmissible by infection or heredity.

Only towards the close of the last century did a reaction set in. This reaction started from the field of mental diseases, particularly of hysteria and neurosis. The prevailing view considered neurosis either as an epiphenomenon of somatic disease—or it was not accepted as a disease at all, but as moral weakness or depravation. Fundamentally this was still the Cartesian position. But the treatment of these diseases did not prove very successful. Here again I need not detail the rise of the psychological technics which under the name of psychosomatic medicine today extend far into general medicine, nor is it my task to comment upon their medical significance. Yet, from the historical perspective of our discussion, the following point must not be overlooked. Diseases are not always accidents; even diseases that express themselves somatically may, under certain circumstances, owe their origin to psychological conflicts which the individual has been unable to solve. Perhaps I can cite no more telling example than what Dr. Flanders Dunbar has named "accidentitis." There seem to be persons to whom accidents happen frequently because they have developed an accident habit. Their personality pattern, moreover, is stated by Dr. Dunbar to match that of criminals.[85] If even accidents may not always be mere accidents, then it is obvious that diseases that are open to psychological analysis of this kind do not happen by chance, but are a part of the patient's reaction towards the conflicts of his life. In other words, they have motives and to lay bare these motives is a legitimate task of medicine.

But it is equally obvious that somewhere and somehow the question

[84] It is remarkable, how slowly the idea of the social responsibility of the sick person towards others developed. Before the nineteenth century instances are rare where the patient himself is expected to avoid the transmission of his illness. The community might place restrictions upon him to which he had to submit, but these restrictions were mainly a matter of public law, not necessarily supported by the patient's own conscience. Only from about the middle of the last century on does the recognition spread that prevention of the "accident" or "fate" of disease in others may be the responsibility of the patient himself. I have touched upon this point in "Zur Geschichte von 'Moral und Syphilis'" (cf. above note 18) where I have shown that the emphasis upon the patient's social responsibility leads to an interpretation of disease as crime.

[85] Flanders Dunbar, *Mind and body*, New York, Random House, 1947, p. 102.

then remains whether there is meaning in calling these motives good and bad because dependent on the individual's choice, or whether they are but the interplay of natural urges and drives. If the latter view is accepted, then indeed crime itself is nothing but a disease, a natural process.

4.

Perhaps we had better stop now for a moment and reconsider the course of our discussion. Our main theme so far was the responsibility for disease. We started from the view that the physician is not supposed to play the moral judge of his patient. We tried to find the various historical forms in which this idea manifested itself as well as the trends in a different direction. Only at the end did our discussion culminate in the general problem, whether moral responsibility in itself might be a natural phenomenon and lack of responsibility a mere pathological abnormality. We had now best summarize what we have found by briefly considering this general problem.

Wherever a separate medical profession exists its very existence expresses the belief on the part of society that disease may have natural causes and be susceptible to natural cures. For where all disease is conceived as originating in sin or guilt, secular medicine has no place. The physician is, so to speak, the social appointee of the natural side of man. As an empiricist the physician notes the relationship between environmental and physiological factors on the one hand and man's character on the other. Thus Hippocrates described the people who lived in cities exposed to different winds according to their somatic as well as psychic behavior. In cities lying to the east, for instance, " the persons of the inhabitants are, for the most part, well colored and blooming, unless some disease counteract. The inhabitants have clear voices, and in temper and intellect are superior to those which are exposed to the north . . ." [36] The physician also notes the influence of diseases and drugs upon man's behavior. He has to push his analysis as far as he can and he easily arrives at the metaphysical generalization that man's soul is wholly dependent upon his body. Galen, the last of the great physicians of antiquity, was led to write a book, the title of which indicates its thesis: " That the Faculties of the Soul Follow the Temperament of the Body." In a roundabout way he suggests that the soul has no existence separate from the body and that in reality it is nothing but the mixture, the temperament, of the body. This alone, to his mind, will explain the different behavior of small children,

[36] " On airs, waters, places," ch. 5; Adams' translation, *loc. cit.*, I, p. 160.

the mental effects of drunkenness and fever and the phenomena of madness. From such premises he then draws the following consequence: "Neither are all men born enemies of justice nor are they all its friends, since they become such as they are because of the temperament of their bodies." And if the question is raised, how one may rightly dispense praise or blame, hate or love since men are good or bad not by themselves but by the temperament which they receive from other causes, the answer is quite simple: "Because, so we shall answer, we all have the faculty to prefer, search and love the good and to turn away from evil and to hate and flee it without, in addition, considering whether it is innate or not." [37] Evidently Galen avoids the last consequence of complete relativity of good and evil only by a pragmatic appeal to the reality of life. But just as Galen for more than 1000 years became the greatest medical authority, so he also embodied a tradition in the medical attitude towards crime, which again and again came to the fore. In 1496, for instance, the Leipzig professor and doctor of medicine, Martin Pollich von Mellerstadt, disputed the question whether medicine could cure all mortal sins. I give here an English rendering of the first three paragraphs from their awkward Latin original.

The instruments of the voluntary disorders, which the theologians call mortal sins, have their beginning in the psychic spirit in the brain that moves all parts of the body proportionally to what is wished and desired as is demonstrated by the sinews of the chest in apoplectic persons.

Such accidents, therefore, formally fall under the consideration of the physician, in so far as they express the complexion of the body, for whose motions the soul is said to become naturally altered. Granted, then, that the laws may rectify things of this kind according to custom and liberty of will, nevertheless the physician modifies them according to nature . . .[38]

Small wonder then that the physician had the reputation of being an atheist, a "Nulla fidian" as the doctor called himself in William Bullein's *Dialogue Against the Fever Pestilence*.[39] Certainly, as Kocher has pointed out in his recent study of "The Physician as Atheist in Elizabethan England," [40] this reputation was exaggerated. But the radicalism of a

[37] Galen, *Scripta minora*, vol. II, ex recognitione Iwani Mueller, Lipsiae, Teubner, 1891, p. 73.

[38] Karl Sudhoff, *Aus der Frühgeschichte der Syphilis*, Leipzig, Barth, 1912, p. 44 f. (Studien zur Geschichte der Medizin, Heft 9).

[39] William Bullein, *A dialogue against the fever pestilence*, ed. Mark W. Bullen and A. H. Bullen, London, Early English Text Society, 1888 (reprinted 1931), p. 14.

[40] Paul H. Kocher in *The Huntington Library Quarterly*, 1947, vol. 10, pp. 229-249.

few tinged the good name of the many. In following centuries this attitude became ever more widespread and occasionally gave rise to popular movements. I have had an opportunity of studying the so-called phrenological movement initiated in the early 19th century by the doctors Gall and Spurzheim.[41] According to these neurologists the psychic faculties, including good and bad drives, are innate functions of certain regions of the brain. Pushed to its extreme consequences, phrenology had to consider all criminals as sick persons since they were deplorable victims of an abnormal disposition. But as yet the religious forces in the authors themselves were strong enough to give the doctrine a turn away from a denial of moral responsibility. Altogether it can be said that as long as society, through religion or a customary morality, preserves the belief that intellect and will have laws of their own too, it exempts these laws from being incorporated into physiology and pathology. Only when these reservations yield does nature become all comprehensive and so do the concepts of health and disease. They then only need an extension into the field of society since morality involves the relationship of human beings. Some such concept seems to me expressed in a recent formula which defines health as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity."[42] I do not think that I read too much into this formula if I believe that it tends to include moral values and to identify health with happiness.

The physician must believe in the value of health, for this is implicit in his own professional integrity. Society expects of him the rôle of defending and extending the claims of health. But is the pursuit of happiness itself wholly a medical matter? Our life has many values and those physicians who have lost their own health in the exercise of their profession remind us that happiness can sometimes be achieved at the sacrifice of health.

The metaphysical question as to the existence and nature of moral responsibility is not a medical one. It is for this very reason that the physician can avoid becoming a moralist in practising his art. But if health is defined so broadly as to include morality, then the danger exists that the physician will also be burdened with all the duties of the medieval priest. This would indeed be the medieval position in reverse, and I wonder whether is would prove acceptable to medicine and society.

[41] Owsei Temkin, "Gall and the phrenological movement," *Bull. Hist. Med.*, 1947, vol. 21, pp. 275-321.

[42] "Constitution of the World Health Organization," *Chronicle of the World Health Organization*, 1947, vol. 1, p. 29.

JOHN AND WILLIAM HUNTER AND SOME CONTEMPORARIES IN LITERATURE AND ART

JANE M. OPPENHEIMER

> Nothing in nature stands alone; every art and science has a relation to some other art or science, and it requires a knowledge of these others, as far as this connexion takes place, to enable us to become perfect in that which engages our particular attention.
>
> JOHN HUNTER.[1]

Some remarks have lately been published which have suggested that both William and John Hunter worked in perhaps closer relationship with their non-scientific contemporaries than many of their biographers have emphasized. These recent reports have been concerned primarily with William Hunter's relationships with figures of political significance [2] and with Tobias Smollett,[3] and with John's possible connections with William Blake.[4] It is the purpose of the present communication to point out the friendships of these men of science with their contemporaries in the world of literature and art more generally.

It is well known that William Hunter's activities were scarcely confined to strict pursuit of his professional vocations. He collected museum specimens as a supplementary avocation. For diversion, he collected coins, antique as well as negotiable, and he may justly have fancied himself an authority on numismatics. He collected books, too, of every conceivable kind; his library numbered over 12,000 volumes, "with specimens of almost every press since the introduction of printing; almost every work in classic and foreign literature known to exist previous to the sixteenth century." [5] It included, among other works printed on vellum, an Aldine Plato of which Dibdin wrote: "Here is a lion among books that would create a roar sufficient to make the whole forest of the world ring." [6]

[1] T. Bryant, "Hunterian oration," *Lancet*, 1893, I, 342.

[2] J. M. Oppenheimer, *New aspects of John and William Hunter*, Henry Schuman, New York 1946.

[3] J. M. Oppenheimer, "A note on William Hunter and Tobias Smollett," *J. Hist. Med. & Allied Sci.*, 1947, II, 481-486.

[4] J. M. Oppenheimer, "A note on William Blake and John Hunter," *ibid.*, 1947, I, 41-45.

[5] S. Paget, *John Hunter, man of science and surgeon*, Longmans, Green & Co., New York 1897, pp. 65-66.

[6] G. R. Mather, *Two great Scotsmen*, Maclehose, Glasgow 1893, p. 100.

One of his own books, the magnificent elephant folio, the *Anatomy of the Human Gravid Uterus, Exhibited in Figures*, published in 1774 and still almost without peer as an example of anatomical illustration, was the only medical publication issued by the distinguished Baskerville Press, whose founder, John Baskerville, was one of the great figures in the history of typography. William Hunter was a man of wide interests, but he was no dilettante: he learned bibliography as he increased his collection; but, more important, he learned to know the men who were writing books as he was acquiring them.

His attentions had never, even at the outset, been limited to medical science. When first he came to London, he carried letters of introduction to medical men, but at least one of these was written by a lover of literature, namely Robert Foulis, himself originally an apprentice to a barber, and one of the two Scottish brothers who founded the famous and distinguished press at Glasgow. Surely Foulis' early interest in Hunter is evidence enough that William's respect for books was developing before ever he arrived in London.

Even the constitution of the medical gatherings in town which Hunter attended in his early days in London reflected his inclinations towards the company of the literary minded. "There was a club in London," wrote Alexander Carlyle in his *Autobiography*, "where Robertson and I never failed to attend, as we were adopted members while we stayed in town. It was held once a-week in the British Coffeehouse, at eight in the evening; the members were Scotch physicians from the city and Court end of the town. Of the first set were Pitcairn,[7] Armstrong, Orme,[8] and Dickson;[9] of the second were William Hunter, Clephan,[10] Mr Graham of Pall Mall,[11] &c.—all of them very agreeable men."[12]

[7] William Pitcairn, M. D. Rheims and also Oxon. by diploma when the Radcliffe Library was opened in 1749. Physician to Saint Bartholomew's 1750-80; President of the College of Physicians 1775-85. He and his nephew David Pitcairn became fourth and fifth owners respectively of "the Gold-headed Cane" previously owned by Drs. Radcliffe, Mead and Askew, which the widow of Matthew Baillie, the sixth owner, deposited in the College of Physicians. David Pitcairn became one of William Hunter's trustees.

[8] David Orme, M. D. Edinburgh 1749, Man-midwife Extraordinary to the City of London Lying-in Hospital.

[9] Thomas Dickson, M. D. Leyden 1746, F. R. S. Physician to London Hospital.

[10] John Clephane, M. D. St. Andrews 1729; F. R. S. 1749. Physician to Saint George's Hospital 1751.

[11] James Graham, the Mesmerist, who set up his "Temple of Health" in Schomberg House in the 1780's. Emma Hart, later Lady Hamilton, was one of his goddesses.

[12] A. Carlyle, *Autobiography*, W. Blackwood & Sons, Edinburgh 1860, p. 345.

Carlyle himself was Dean of Inveresk, Jupiter Carlyle to his friends; it was he who introduced Smollett's fictitious Matthew Bramble to Hume and Robertson and Adam Smith, and Smollett wrote of Carlyle in this connection that he wanted "nothing but inclination to figure with the rest upon paper." [13] Sir Walter Scott called him "the grandest demigod I ever saw" [14] and John Hill Burton said of him that "scarcely a primate of the proud Church of England could overtop in social position and influence the Presbyterian minister of Inveresk." [15]

Robertson, William Robertson,[16] author of the *History of Scotland*, was no less distinguished a mind; and while the medical members of the group enumerated by Carlyle may have lacked the brilliance of the Dean and the historian, they were almost all of them qualified in some respect for social or intellectual intercourse with them. Pitcairn was a cousin of Robertson's, whose mother had been a Pitcairn. Dickson married Carlyle's sister. Clephane was an intimate of David Hume's. Armstrong attempted to relate medicine to letters in his didactic poem, "The art of preserving health," and it was not through lack of effort that he became the man of whom it was said, "in the practice of Physic he never was eminent, and as a medical writer he entirely failed." [17]

Carlyle and Robertson attended not only Hunter's club but also on occasion his lectures. Carlyle even spoke of Hunter's qualities as a lecturer in his *Autobiography*: "He was a famous lecturer on anatomy. Robertson and I expressed a wish to be admitted one day. He appointed us a day, and gave us one of the most elegant, clear, and brilliant lectures on the eye that any of us had ever heard." [18] Adam Smith, too, attended his lectures, a whole series of them in 1777; and perhaps the inscribed copy of the 1778 edition of the *Wealth of Nations* [19] which Smith presented to

[13] T. Smollett, *The expedition of Humphrey Clinker*, Modern Library, New York [1929], p. 281.

[14] Carlyle, *op. cit.*, p. 567.

[15] *Ibid.*, p. 575.

[16] William Robertson, author of the *History of Scotland during the reigns of Queen Mary and of James VI. until his accession to the Crown of England* (1759). Chaplain in Ordinary to His Majesty, 1761; Principal of the University of Edinburgh, 1762; Moderator of the General Assembly, and Historiographer to the King, 1763. His son James was Physician to St. George's Hospital from 1785 to 1800, and became Physician Extraordinary to the Prince of Wales in 1799; it was into James Robertson's arms that John Hunter fell as he died.

[17] W. Wadd, *Nugae chirurgicae*, Longman, Hurst, Rees, Orme, Brown, and Green, London 1824, p. 177.

[18] Carlyle, *op. cit.*, p. 346.

[19] *Catalogue of the Hunterian Library*, Jackson Wylie & Co., Glasgow 1930, p. 336.

Hunter was proffered as token of Smith's gratitude for the edification he received from the lectures.

Hunter's lectures held for Robertson and Smith, however, more than entertainment value: Robertson was well aware of Hunter's desires to improve the conditions of medical education, though to be sure Hunter may have purchased the historian's cognizance of his aims by means of a material gift. There is a letter from Robertson to Hunter extant acknowledging Hunter's donation of a number of books to the University of Edinburgh. "Any mark of your regard to our Medical Colleges here," wrote Robertson, "shews a very different spirit from that illiberal one which prevails at present among some of your fraternity." [20]

Unfortunately, however, it was through Adam Smith's esteem for Hunter as pedagogue that the progress of medical education in Scotland was at least temporarily impeded rather than accelerated. Cullen had written, in 1774, when he was President of the Edinburgh College of Physicians, and when the Duke of Buccleuch [21] was elected Honorary Fellow, a Memorial to the Duke suggesting means of checking the pernicious practice in some of the Scottish universities of granting medical degrees on the basis of letters of recommendation alone, without examination and without attendance at the University. The Memorial was submitted to Adam Smith, who had been from 1764-66 tutor to the Duke, and who, in a long and brilliant letter published in full in Thomson's *Life of Cullen*, opposed the corrective measures suggested by Cullen, supporting his argument by questioning whether "would not such a regulation be oppressive upon all private teachers such as the Hunters, Hewson,[22] Fordyce,[23] &c." [24] "Whether the unfavourable reply of Dr Smith had discouraged

[20] V. Plarr, "Unpublished letters to William Hunter," *Chambers's Journal*, 1906, IX, 37. Original letter in the possession of the Royal College of Surgeons of England.

[21] Henry, third Duke of Buccleuch, a descendant of the Scotts of Buccleuch from whom Sir Walter Scott was also descended. It was an earlier Sir Walter Scott of Buccleuch whose exploits furnished the material for the "Lay of the Last Minstrel."

[22] William Hewson, who came to London in 1759 to attend William Hunter's lectures and to live with John Hunter. He lectured for William during the latter's illness in 1759, went to Edinburgh in 1760, then returned to become William's assistant and partner until 1772. The partnership was dissolved in 1772 in a dispute over the ownership of preparations made by Hewson, and Hewson thereafter delivered his own lectures until his death from a dissection-wound in 1774.

[23] George Fordyce, one of Cullen's first and favorite pupils, M. D. Edinburgh 1758. He studied anatomy with William Hunter and at Leyden, then lectured in London on chemistry, materia medica, and practice of physic. He was Physician to St. Thomas's, F. R. S., and a member of Johnson's Literary Club. He became one of William Hunter's trustees.

[24] J. Thomson, *Life of Cullen*, William Blackwood & Sons, Edinburgh 1832, 1859, I. 474.

the Duke of Buccleugh (sic) . . . or whether other circumstances had occurred to withdraw the attention of those more particularly interested in it, does not appear, but no farther progress seems ever to have been made in this matter, and it was left to the Scotch Universities themselves to remove the abuses complained of." [25]

Hunter's lectures were respected, however, not only by such men as Robertson and Smith, who were directly or indirectly concerned with the improvement of medical education in Scotland. They were warmly applauded also by James Perry, the first editor of the *European Magazine*, later the editor of the strongly Whig *Morning Chronicle*. Perry, a Scot, who was in turn a draper's assistant, an unsuccessful actor and a manufacturer's clerk before becoming a journalist, had at least one interest in common with William, namely, book-collecting. His library was singularly fine, and included even a copy of the Mazarin Bible.[26] If however, Hunter and Perry agreed on the virtues of book-collecting, they were at odds politically. In the 1780's, when William was violently anti-Whig, Perry, who was even to be prosecuted for the liberal utterances of the *Morning Chronicle*, was writing of him warmly. But he was a singular man, as we know from one of his own contemporaries, the artist Thomas Lawrence.[27]

For the fact that Perry's singularities extended to supporting his friends no matter what their political opinions, William Hunter had cause to be grateful: we know from John Hunter's student John Abernethy how " the first editor of the European Magazine, printed in 1782, was well acquainted with Doctor Hunter and his brother, and being desirous of giving, in that work, an account of the distinguished schools of science both at home and abroad, he began with the lectures of these brothers." [28]

The Scots in eighteenth century London were a tightly clannish group who clung closely together, partly as a result of their fundamentally similar mental attributes, partly as defense against the overt prejudice against them as Scots—a prejudice fostered no doubt as much by jealousy of their intelligence and success, as by the political basis for their deprecation. Hunter's approbation from Carlyle, and Robertson, and Smith and Perry was only indirectly however related to their common Scottish ancestry, and he was to achieve as high a degree of respect from the English and Irish as from the most ardently partisan of the Scots.

[25] *Ibid.*, I, 481-482.
[26] See J. Farington, *Diary*, Hutchinson & Co., Ltd., London 1922-28, VI, 16 f. n.
[27] See *Ibid.*, II, 237-238.
[28] J. Abernethy, *Surgical works*, Longman, Hurst, Rees, Orme and Brown, London 1819, III, 201.

Edward Gibbon, for instance, was another eager attendant at his lectures, and his letter to William is still extant: "Mr. Gibbon presents his compliments to Dr. Hunter, and proposes himself the pleasure of attending some of his Anatomical lectures. He sincerely laments that his litterary and Parliamentary avocations will not allow him to enjoy the whole benefit of so interesting and instructive a Course of Study." [29] Whether or not he had planned to attend so many, Gibbon, together with Adam Smith, attended a series of lectures at Great Windmill Street from February through April, 1777, which he described as having "opened a new and very entertaining scene within myself." [30] We know, from another student who attended the same series, that "Mr. Gibbon, at the end of every lecture, used to leave his seat to thank the doctor for the pleasure and instruction which he had received," [31] and although he had presumably not so designed when he started the course, he not only postponed a trip to Paris in order to complete it, but even interrupted his "litterary avocations" to do so. "Nearly two years," he wrote concerning the preparation of his *Decline and Fall*, "had elapsed between the publication of my first and the commencement of my second volume; and the causes must be assigned of this long delay. 1. After a short holiday, I indulged my curiosity in some studies of a very different nature, a course of anatomy, which was demonstrated by Dr. Hunter; and some lessons of chemistry, which were delivered by Mr. Higgins. The principles of these sciences, and a taste for books of natural history, contributed to multiply my ideas and images; and the anatomist and chemist may sometimes track me in their own snow." [32] Gibbon was to be reminded of his connections with Hunter even in his last illness. When Farquhar and Henry Cline were deciding, shortly before Gibbon died, whether to operate to relieve the historian's distress, they "begged to have the opinion of Doctor Baillie, that Mr. Gibbon might hear from him whether his old anatomical master Doctor Hunter had left in his museum any preparations similar to his case." [33]

William himself was not insensible of gratitude to Gibbon for condescending to hear him, and presented Gibbon with a 600 page quarto

[29] Plarr, *op. cit.*, p. 35. Original letter in the possession of the Royal College of Surgeons of England.

[30] D. M. Low, *Edward Gibbon*, Random House, New York 1937, p. 256.

[31] J. Taylor, *Records of my life*, E. Bull, London 1832, III, 262.

[32] E. Gibbon, *Memoirs*, Methuen & Co., Ltd., London 1900, pp. 200-201.

[33] C. D. O'Malley, "Some material on the death of Edward Gibbon," *Bull. Hist. Med.*, 1943, XIII, 207.

commentary on Thucydides' account of the plague, printed in Venice in 1603 and attributed to Fabius Paullinus Utinensis, acknowledged by Gibbon in a footnote in the *Decline and Fall*.[84]

Hunter is said, by some of his biographers, to have known Goldsmith intimately also, though there is no mention of Hunter in biographies of the poet. Hunter, however, became Professor of Anatomy to the Royal Academy in 1768, and Goldsmith Professor of Ancient History to the same institution the following year, and the two men shared many mutual friends both within and without the Academy ranks.

It is amusing to speculate as to what the relationships may have been between Hunter, the successful practitioner, and Oliver Goldsmith. Poor Goldsmith! Though like Hunter he learned anatomy of a Monro, his medical and worldly failings stand alike exposed in a single sentence of Foster's: "Oliver Goldsmith presented himself in a new suit (not paid for) to be examined as to his qualifications for being a surgeon's mate . . . and in the minutes of the Court of Examiners . . . the entry occurs: James Bernard, mate to an hospital; Oliver Goldsmith, found not qualified for ditto." [85]

The only specific evidence of their friendship, however, seems to be a formal letter from Goldsmith to Hunter, conjecturally dated 1770 by the editor of the poet's letters:

Dear Sir, The young gentleman who carries this is my nephew. He has been liberally bred and has read something of physic and surgery, but desires to take the shortest and best method of being made more perfect in those studies. I beg sir you will put him in the way of improvement, and while he will take care to satisfy his instructors, I shall think my self laid under a particular obligation by your services or advice.

I am

Dear Sir

Your very humble serv't

OLIVER GOLDSMITH.[86]

This hardly furnishes evidence of any great affection between Hunter and the Irishman who had been so ill-starred as a member of Hunter's own

[84] E. Gibbon, *Decline and fall of the Roman Empire*, Frederick Warne & Co., London 1893, III, 198, f. n. 4.

[85] Quoted by J. F. South, *Memorials of the craft of surgery in England*, Cassell & Co., London 1886, p. 280.

[86] O. Goldsmith, *Collected letters*, Cambridge University Press, Cambridge, England 1928, p. 88. Original letter in the possession of the Royal College of Surgeons of England.

profession; but a formal letter of introduction need not necessarily give proof of great personal affection between writer and recipient.

Goldsmith pretended too, like the Hunters, to a knowledge of natural history, and wrote a *History of Animated Nature*. "If he can distinguish a cow from a horse," said Samuel Johnson, "that, I believe, may be the extent of his knowledge of natural history." [37] Johnson himself was always inclined towards natural history, and had a lively interest in Hunter's fields of inquiry. Like so many men who are ill, he "was a great dabbler in physic," [38] and "had a peculiar pleasure in the company of physicians." [39] He could not have completed his biography of Sir Thomas Browne without having absorbed some of that venerable physician's reverence for the Creation and its creatures. Nor could he have written his reviews of Stephen Hales' publications on the distillation of sea-water, and ventilation in ships, without some native interest in their content. His intellect was too profound to allow him to consider the philosophies of Newton and of Priestley without first evaluating their strictly scientific contributions.

Against this background of Johnson's interest in physical and natural history, and in man's physical frailty, Johnson had various dealings with Hunter and his friends concerning matters which were related, directly or indirectly, to Hunter's profession. There is, for instance, a letter extant which Allan Ramsay the younger, portrait painter to the King, wrote to Hunter in 1778: "Dr. Johnson with his usual humanity interests himself for a young artist who lies ill of some distemper which requires the advice of a skillfull anatomist, and has induced me to conspire with him in desiring that you would be so good as to call upon the young man when you happen to go to that part of the town where he lodges. . . . Being well acquainted with your benevolent disposition, I will make no apology for this request." [40] Even after Hunter died, Johnson showed an interest in his succession, and took occasion to compliment him in his note to Sir Joshua Reynolds written 2 May 1783, just a little over a month after Hunter died: "DEAR SIR,—The gentleman who waits on you with this is Mr. Cruikshanks,[41] who wishes to succeed his

[37] J. Boswell, *Life of Samuel Johnson*, Archibald Constable & Co., Westminster 1896, IV, 90.

[38] *Ibid.*, IV, 154.

[39] *Ibid.*, VI, 127.

[40] Plarr, *op. cit.*, p. 34. Original letter in the possession of the Royal College of Surgeons of England.

[41] William Cumberland Cruikshank, first William Hunter's assistant, later his partner at the Great Windmill Street School, and ultimately, with Matthew Baillie, his successor

friend Dr. Hunter, as Professor of Anatomy in the Royal Academy.[42] His qualifications are very generally known, and it adds dignity to the institution that such men are candidates." [43]

Johnson was concerned too with the disposal of Hunter's material goods, and it appears from a MS. note of Dr. Brocklesby's describing a conversation with Johnson that it was at Johnson's suggestion that Hunter's collections were allocated to Glasgow.[44] William, for his part, reciprocated Johnson's interest in his fields by turning his attention to Johnson's progress in his own. On 29th December 1774 Johnson wrote to Hunter:

SIR—I am very much obliged by your willingness to present my book to His Majesty. I have not courage to offer it myself, yet I cannot forbear to wish that He may see it, because it endeavors to describe a part of his Subjects, seldom visited, and little known, and his Benevolence will not despise the meanest of his people.

I have sent you a book, to which you are very justly entitled, and beg that it may be admitted to stand in your library however little it may add to its elegance or dignity. I am, Sir, Your most humble Servant SAM: JOHNSON.[45]

William was to be called upon by others, too, whose prime aims were literary rather than scientific progress, to attend to their interests. Such was the case for Fielding, whose physician and friend Hunter had been. In 1754 Henry Fielding had written to his blind brother (later Sir John)

there. He made signal progress in elucidating the anatomy of the lymphatic system, discovered that transected nerves can regenerate, performed experiments to demonstrate the passage of the fertilized ovum through the Fallopian tube, and knew that the skin as well as the lungs gives off CO_2. Cruikshank was a popular and successful practitioner, and attended Johnson in his final illness. Johnson's reference to him as a "sweet-blooded man" (F. H. Garrison, *Introduction to the history of medicine*, 4th ed., W. B. Saunders Co., Philadelphia 1929, p. 325) is classic. That even the lexicographer could mischoose words is proved by William Hamilton's letter to his father stating: "Mr. Cruikshanks I hear is very ticklish with regard to his wife and is even cast out with Mr. Young who he thought came too often to visit him, but this I beg you will take no notice of and burn the letter after you have read it, as he is a man who may be of great use to me, and whom I would not for the world disoblige" ([Anonymous], *Lancet*, 1928, CCXIV, 356; original letter in the possession of the Royal College of Surgeons of England).

[42] The Royal Academy neglected to follow Johnson's advice and appointed John Sheldon, a choice they may have had later occasion to regret. Cf. Farington, *op. cit.*, VI, 182. Sheldon was one of the first Englishmen to ascend in a balloon.

[43] Boswell, *op. cit.*, VI, 56.

[44] Oppenheimer, "A note on William Hunter and Tobias Smollett," *J. Hist. Med. & Allied Sci.*, 1947, II, 484-485.

[45] Plarr, *op. cit.*, p. 36. Original letter in the possession of the Royal College of Surgeons of England. The book was presumably the *Journey to the Hebrides*.

about some cider he had bought: "I have consigned it in the following manner. Half a Hdd to yourself, half to Welch, half to Hunter and half to Millar, and I wish you all merry over it." [46] Sir John himself, Henry's successor as Justice, wrote to Hunter in a letter, dated 4 September 1778 at Bow Street:

> Sir John Fielding presents his Compliments to Dr. Hunter, and acquaints him that the Comedy of the Good-natured Man written by the late Mr. Henry Fielding will be performed at Drury Lane next Monday being the Author's Widow's Night.
>
> He was your old & sincere friend. There are no other of his works left unpublished. This is the last opportunity you will have of shewing any respect to his Memory as a Genius, so that I hope you will send all your pupils, all your patients, all your Friends, & every body else to the Play that Night, by which Means you will indulge your benevolent feelings & your Sentiments of Friendship.[47]

Sir John was probably expressing his true sentiments, rather than exaggerating them to drum up a good audience; but he may have remembered that William had had earlier dealings with the drama in London. Hunter had, in his early days of teaching, at least, scheduled his lectures for 5 P. M.; in January 1768 he changed the hour to 2 P. M. in order to prevent their interference with theatre hours. Wadd has described the occasion of the change: "When Garrick was in his zenith, [he] soon discovered that he stood no chance with the actor, for whenever Garrick *lectured*, the *anatomical lectures* were neglected. In vain did the Doctor preach to the pupils on the immorality of attending theatres, and the impropriety of neglecting him, it was of no avail; Romeo's Apothecary, and Dr. Last, were the only medical characters to spend the evening with, and for the rest, they thought Macbeth sufficient authority, to 'throw physic to the dogs.' For this reason, and for this reason alone, the anatomical lectures were afterwards given in the middle of the day." [48] Who knows?—perhaps it was in gratitude for the resolution of the conflict that later in 1768 Garrick went to St. George's Hospital to oblige William by voting for his brother John as surgeon.

It becomes apparent from a review of William Hunter's relationships with the men of literature that many of them were originally interested in Hunter first as a medical practitioner or educator. Fielding was his

[46] W. Cross, *The history of Henry Fielding*, Yale University Press, New Haven 1918, III, 41.

[47] Plarr, *op. cit.*, p. 34. Original letter in the possession of the Royal College of Surgeons of England.

[48] W. Wadd, *Mems. maxims and memoirs*, Callow & Wilson, London 1827, p. 189.

patient; Smollett and Goldsmith had been trained in medicine. Robertson and Smith had some degree of professional concern with his lectures, in relationship to broader problems of medical education. Johnson and Gibbon confessed to an inherent attraction by natural history. The warmth of all of these men, however, in recognizing and praising his professional attainments must have flattered Hunter into believing himself qualified for intercourse with them in their own disciplines and at their own levels. In return for their interest in him and in medicine, Hunter proved to them as he proved for the first time to the members of his own profession in Great Britain, that the presentation of anatomical and surgical material could be accomplished with as high degree of erudition and polish as ever distinguished creative and historical literature.

In other fields than literature, however, the records are as explicit in demonstrating the extent to which Hunter was involved with workers in other disciplines than his own, and fragmentary though they are, they are particularly interesting in the case of men whose profession was the advancement of the arts.

"I am pretty much acquainted with most of our best artists here," Hunter wrote to Cullen in 1768, "and live in friendship with them." [49] How first he entered their circle can only be conjectured: it may well, however, have been through his Scottish connections. One of his friends was Allan Ramsay the younger,[50] portrait painter to the King, whose father, Allan Ramsay, the poet, author of "The Gentle Shepherd," was like Hunter a Lanarkshire man. Strange, later Sir Robert, the Scottish engraver, whose name was his epithet as well as his label, directed the execution of the fine plates of William's *Anatomy of the Human Gravid Uterus, Exhibited in Figures*, and was said to have been William's close friend too.

But Hunter also knew well not only the Scots, but also many of the Englishmen who advanced the progress of the arts in Great Britain. In fact the list of his friends among the artists reads like a roll of honour of the Royal Academy. He is said, for instance, to have known Gainsborough; Reynolds, who painted his portrait, went to St. George's Hospital to vote for John as surgeon supposedly as a favour to William, and William's library includes a copy of Reynolds' *Discourses* inscribed "To

[49] Thompson, *op. cit.*, I, 554.

[50] Hunter's Library included, among many pamphlets on Elizabeth Canning:
Investigator, (The). Containing the following tracts: I. On ridicule. II. On Elizabeth Canning. III. On naturalization. IV. On Taste. (By Allan Ramsay, the Younger) 8° London. 1762. (With inscription: 'From the Author.') (*Catalogue of the Hunterian* Library, p. 194). See also above, p. 28 for a friendly letter from Ramsay to Hunter.

Dr. Hunter from the Author." [51] James Barry wrote to him to borrow a medal or print of Pericles and Lycurgus. William is reported too to have known Hogarth intimately: in the 1785 edition of Nichols' *Biographical Anecdotes of Hogarth*, the "List of Gentlemen, Artists, &c. who furnished incidental intelligence to the Author of this Work" includes "Dr. Hunter—dead" [52] and it may be that perhaps William gave the clues for the identification of the quacks satirized in the "Undertakers' Arms." Certainly Hunter too knew Pine, who painted two portraits of him, and who was himself immortalized in one of Hogarth's illuminations of medical history: it was Pine, Friar Pine ever after to his friends, whose face became the Friar's in Hogarth's "Pool of Bethesda" which represents the sorry condition of the patients at Saint Bart's.

One of the most constant traits of William Hunter's character was his tendency to turn his interest in fields other than his own into active participation. Accordingly, his association with the artists attained the highest professional level possible: he became the first Professor of Anatomy to the Royal Academy, appointed when the Academy was founded in December 1768, and he held the position until he died. The seriousness with which he regarded this affiliation is described by one of his contemporaries: "This appointment," wrote his friend Simmons, "opened a new field for his abilities, and he engaged in it as he did in every other pursuit of his life, with unabating zeal. He now adapted his anatomical knowledge to the objects of painting and sculpture, and the novelty and justness of his observations proved at once the readiness and extent of his genius." [53]

He showed the same eagerness to carry on transactions with the artist at his own level in his relationships with a student of music, Dr. Charles Burney, author of the four-volume *History of Music*. He may have come to know Burney first through professional attendance on his wife, since he attended the first Mrs. Burney when she died in 1761, as we know from Madame D'Arblay's *Memoirs* of her father:

> Thus glided away . . . this first—and last! happy year of the new London residence. In the course of the second, a cough, with alarming symptoms, menaced the breath of the life and soul of the little circle. . . .

---

[51] *Ibid.*, p. 310.

[52] J. Nichols, *Biographical anecdotes of William Hogarth*, J. Nichols, London 1785, p. xv.

[53] S. F. Simmons, *An account of the life and writings of the late William Hunter*, J. Johnson, London 1783, p. 45. Simmons was M. D. Leyden 1776, F. R. S., physician to Westminister Infirmary and St. Luke's Hospital, Physician Extraordinary to George III, and for many years editor of the *London Medical Journal*.

She rapidly grew weaker and worse. . . . In the ensuing autumn she was seized with an inflammatory disorder, with which her delicate and shaken frame had not force to combat. No means were left unessayed to stop the progress of danger; but all were fruitless! and, after less than a week of pain the most terrific, the deadly ease of mortification suddenly, awfully succeeded to the most excruciating torture.

Twelve stated hours of morbid bodily repose became, from that tremendous moment of baleful relief, the counted boundary of her earthly existence.

The wretchedness of her idolizing husband at the development of such a predetermined termination to her sufferings, when pronounced by the celebrated Dr. Hunter, was not only distraction.[54]

But William was to have transactions too with Dr. Burney in the latter's own field. When James Bruce [55] wrote to Hunter in 1776 he said, "Be so good as to keep Burneys book for me it has been long in coming." [56] Burney's book was his *History of Music*. Hunter's interest in procuring the book for Bruce is clear from a comment made by Walpole who wrote in a letter to a friend dated 29th February the same year, concerning the book in question: "Would you believe that the great Abyssinian, Mr. Bruce, whom Dr. B. made me laugh by seriously calling the *intrepid traveller*, has had the intrepidity to write a letter to the Doctor, which the latter has printed in his book." [57]

Hunter was to acquire even greater merit in his semi-professional dealings with Burney, as we know again from Burney's daughter who wrote:

Just as this great dramatic genius [Garrick] was descending to the tomb, young Crotch, a rising musical genius, was brought forward into the world with so strong a promise of eminence, that a very general desire was expressed that Dr. Burney would examine, counsel and countenance him; and at only three years and a half old, the child was brought to St. Martin's street by his mother.

The Doctor, ever ready to nourish incipient talents submitted to his investigation,

---

[54] F. D'Arblay, *Memoirs of Doctor Burney, abr. ed.*, Key, Philadelphia 1833, pp. 34-35. See Oppenheimer, "Anne Home Hunter and her friends," *J. Hist Med. & Allied Sci.*, 1946, I, 436-437, for Fanny Burney's friendship with Mrs. John Hunter.

[55] James Bruce, who explored in Africa in an attempt to discover the source of the Nile. He reached the source of the Blue Nile, which he erroneously claimed was the Nile of the ancients, and was the first white man to reach the confluence of the Blue Nile with the White.

[56] Plarr, *op. cit.*, p. 37. Original letter in the possession of the Royal College of Surgeons of England.

[57] H. Walpole, *Letters*, Clarendon Press, Oxford 1903-05, IX, 333. Walpole expressed his sentiments about Bruce a little harshly upon occasion, and repeated with evident relish a *bon mot* of Selwyn's at his expense. Bruce, upon being asked about musical instruments of Abyssinia, claimed the Africans had "one lyre," to which Selwyn replied in an aside, "I am sure there is one less since he came out of the country" (*ibid.*, IX, 334).

saw the child repeatedly; and was so forcibly struck by his uncommon faculties, that upon communicating his remarks to the famous Dr. Hunter, *who had been foremost in desiring the examination*,[58] Dr. Hunter thought them sufficiently curious to be presented to the Royal Society; where they were extremely well received, and printed in the Philosophical Transactions of the year 1779.[59]

Hunter's Library includes, among other publications of Dr. Burney's, "Account of an infant musician. . . . 4° London, 1779," [60] which presumably Burney sent him as appreciation of his part in the transaction. Hunter, however, would have had greater cause for gratification had he lived sufficiently long to learn that Crotch enjoyed a full and distinguished musical career, becoming successively organist at St. John's College. Oxford, Professor of Music in that University, and first Principal of the Royal Academy of Music.

The contemporary records of John Hunter's associations with his friends [61] are far rarer than those relating to William. This is partly related to the fact that John's papers, including almost certainly letters addressed to him, were destroyed by fire. But there is a more fundamental factor involved, namely, one of John's inherent personal characteristics; he made a less vivid immediate impress on the minds of the non-scientists than did his brother for the simple reason that he so desired it. Where William had chosen to enlarge his acquaintanceship with the workers in every field of learning, John poured all of his abundant energies toward the consummation of his scientific projects. Where William collected coins and medals and books along with his museum specimens, John concentrated his efforts more jealously on husbanding the materials of medicine and science, and on turning his thoughts about them into new channels.

For the most accurate measure of John's disinterestedness in literature, we need only turn to his library. Whereas William's library, it will be remembered, included thousands of volumes, John's was numbered only in hundreds. The one suggestion that John might have shown any unusual devotion to the Classics derives from his obituary in the *Gentleman's Magazine*: "As a man of letters, independently of his profound scientific studies, he had traced the practice of surgery to the earliest ages. He was well acquainted with every practitioner mentioned by Pliny, with all the

[58] Italics by present author.
[60] D'Arblay, *op. cit.*, p. 162.
[60] *Catalogue of the Hunterian Library*, p. 64.
[61] Cf. [Anonymous], "John Hunter and his contemporaries," *Lancet*, 1909, I. 700-701.

Greek and Roman authors who had written on the subject, as well as with every modern one who had contributed to the perfection of the art." [62] Ottley commented that "one would imagine that the biographer had purposely selected weak points of Hunter's character, in order to parody them." [63] While this explanation is a possible one, it is far more likely that the necrologist had confused John with his brother William, some of whose lectures were devoted solely to the history of his science, and others of which were full of references to classical authors, whereas John's only rarely noted them.

There have been preserved many of John's derogatory remarks about literature and the Classics: we know, for instance, how he told Sir Anthony Carlisle [64] concerning his stay at Oxford, that "they wanted to make an old woman of me; or that I should stuff Latin and Greek at the University; but . . . these schemes I cracked like so many vermin as they came before me." [65] There is another perhaps less familiar anecdote of him "which proves that he despised general reading. On entering the fine library of Count ———— [66] he was struck with its extent, and expressed it in his appearance. The Count, taking it for pleasurable surprise, said, 'Perhaps, Sir, you read a great deal?' 'No, Sir,' replied Hunter, 'I never read books; I turn over the great volume of nature!' 'Then, Sir,' retorted the disappointed Count, 'give me leave to tell you, that you have not turned over more than the title page!'" [67] There is a similar story related of a conversation John held with Philip Syng Physick's father, who asked Hunter what books his son would need.

[62] D. Ottley, *Life of John Hunter, F. R. S.*, in *The works of John Hunter, ed.* Palmer, Haswell, Barrington & Haswell, Philadelphia 1841, I, p. 96 f. n.

[63] *Loc. cit.*

[64] Sir Anthony Carlisle, F. R. S., Surgeon to the Westminster Hospital. He was a pupil of John Hunter's, and not only a prominent surgeon but an able chemist. He is said to have been the first man in England to construct a Voltaic pile, and together with William Nicholson he was the first to electrolyze water and to decompose a chemical compound by means of electric current.

[65] T. J. Pettigrew, *Medical Portrait Gallery*, Fisher, Son & Co., London 1840, II, 2.

[66] It is impossible to ascertain who the Count was. It may have been the Count de Bruhl, Ambassador from Saxony. A letter from Hunter to the latter has been recorded: "Mr. Hunters compliments to Count Bruhl. He has drawn out a short sketch of the different cures for Hydrocile, which he hopes will be perfectly understood by the Surgeons in Germany." The sketch on hydrocele was published, together with the letter, in the *Lancet*, 1838-39, I, 226-227. The *Lancet* conjectured that the letter was written c. 1773, which is incorrect because the letter was written from "Leicester Sq.," where Hunter moved only in 1784. Furthermore it was only in 1784 that the name of Leicester Fields was changed from Leicester Fields to Leicester Square.

[67] Wadd, *Nugae chirurgicae*, pp. 231-232.

" I will show you the books your son has to study," said Hunter, pointing to the bodies in the dissecting room; " these are the books which your son will learn under my direction, the others are fit for very little." [68] He said too of Foot, his critic, in an often quoted remark, he " accuses me of not understanding the dead languages; but I could teach him that on the dead body which he never knew in any language, dead or living." [69]

It is certain that Hunter exaggerated to some extent his disparagement of books; the story is told too that when he was asked " whether he ever went to the Theatre? he answered in the negative; assigning, as a reason, that ' he was an admirer of nature, but that *he never found nature in a playhouse*! ' " [70] Yet he himself described how he " went to see Mrs. Siddons's acting. I had a full conviction," he wrote, " that I should be very much affected; but unfortunately I had not put a handkerchief in my pocket; and the distress I was in for the want of that requisite when one is a crying, and a kind of fear I should cry, stopped up every tear, and I was even ashamed I did not, nor could not, cry." [71] Hunter described this episode as an example of the fact that " the mind is often in opposition to itself; one state of mind, if strong, shall get the better of another state which is weak "; [72] and his inclusion of it in his " Observations on Psychology " betrays his ability to find nature in a playhouse, when he chose to look for it there. He could, when he cared to, see the value of literature too; but he revealed his principal reason for remaining aloof from it. " I am not anxious about my children," he wrote to his brother-in-law the Reverend James Baillie, " but in their doing well in this world. I would rather make them feel one moral virtue, than read Librarys of all the dead and living languages. You know I am no *Scholara*,[73] therefore do not feel the beauty of Language, when I do not see the use of it." [74]

Yet for all his vaunted avoidance of the printed page, John stood inevitably in some proximity to the men of letters of the times, and in relationships which transcended the purely professional. James Perry, for instance, the first editor of the *European Magazine*, knew him at first hand; when Abernethy spoke of Perry's account of John's lectures

[68] Paget, *op. cit.*, p. 233.

[69] *Ibid.*, p. 234 f. n.

[70] [Anonymous], " The Dramatic Lancet, No. 2," *Lancet*, 1824, I, 173.

[71] J. Hunter, *Essays and observations*, J. Van Voorst, London 1861, I, 257.

[72] *Loc. cit.*

[73] *Sic* in Paget, *op. cit.*, p. 120. Plarr however correctly read *Scholard*; cf. " The Hunter-Baillie collection," *Brit. Med. J.*, 1926, II, 121.

[74] Paget, *op. cit.*, pp. 119-120. Original letter in the possession of the Royal College of Surgeons of England.

in the *European Magazine*, he said: " That the account and anecdotes of Mr. Hunter are genuine, the editor has given me the most positive assurance, adding, I received the materials from his own hand." [75]

Smollett too included John as well as William in his friendship. When John wrote to William from Belleisle in 1761 he included the greeting, " Please to give my best respects to . . . Smollet." [76] The Hunters must have discussed their differences with the novelist: Smollett wrote to William in 1763, " I cannot help expressing an eager Desire that your Brother's future Conduct may entitle him to a revival of those favourable sentiments in you, which he has indiscreetly Forfeited." [77] Although Smollett may once have taken William's side, he bore no grudge against John, as we know from the greeting in his 1764 letter to William, " Remember me kindly to Jock," [78] and from the fact that when he wrote, half-desperately and half-facetiously, shortly before his death in 1771, it was to John he addressed his communication:

> With respect to myself, I have nothing to say, but that if I can prevail upon my wife to execute my last will, you shall receive my poor carcase in a box, after I am dead, to be placed among your rarities. I am already so dry and emaciated, that I may pass for an Egyptian mummy, without any other preparation than some pitch and painted linen; unless you think I may deserve the denomination of a curiosity in my own character, I mean that of
>
> Your old friend,
> and affectionate, humble servant
> T. SMOLLETT.[79]

One's dry carcass in a box is hardly the most ingratiating of souvenirs. But the fact that Smollett even jocularly offered it to John for his museum, rather than to William for his, may be significant. Smollett had formerly had William's collecting propensities in mind; seven years previously he had written to him from Nice, " The scurvy is not known in this country; & all the People have the whitest & the soundest Teeth that I ever saw. I wish I could send you a Head." [80] His shift of interest to John's museum

[75] Abernethy, *op. cit.*, III, 201.

[76] Paget, *op. cit.*, p. 76. Original letter in the possession of the Royal College of Surgeons of England.

[77] T. Smollett, *Letters*, Harvard University Press, Cambridge, Massachusetts 1926, p. 84. Original letter in the possession of the Royal College of Surgeons of England.

[78] *Ibid.*, p. 93. Original letter in the possession of the Royal College of Surgeons of England.

[79] [Anonymous], *Scots Magazine*, 1805, LXVII, 332.

[80] Smollett, *op. cit.*, p. 93. Original letter in the possession of the Royal College of Surgeons of England.

is curious, and may be construed as signifying that Smollett in later years came to appreciate, as did so many others, John's superior strength of character as compared with his brother's.

For the purposes of intellectual history, however, what John Hunter's acquaintances may have thought of him personally, is less significant than the indirect effect of the impact of his intellect on their own. Where William's primary contribution to medicine had been the perfection of an ancient technique, pedagogy, John's was the exploitation of a new one, experiment. William's friends in the literary world were the men who were carrying on the development of letters in its main channels. John's included also those who were to wander down its blind alleys by virtue of their non-conforming, but who, by virtue of their innate originality, were to turn the currents of thought into new directions precisely as had John in his own field. And it may well indeed have been because of the example of an independent mind such as John Hunter's that men like Laurence Sterne, whom Hunter seems to have known,[81] and William Blake, whose path may well have crossed John's, could free themselves from the traditional bonds of their professions.

Even those who are most eager to deny John any interest in the production of creative works of the imagination must begrudge him an active interest in the pictorial arts. The high place he afforded them in his own mind is evident from the fact that he considered their perfection one of the prime reasons for application to his beloved study of anatomy, as he revealed when he wrote under the heading "Progress of the Study of Anatomy": "Anatomy, or the knowledge of the structure of an animal body, may be said to be, first, (acquired) for the good of the animal itself; secondly, for a variety of purposes which have a relation to that structure, such as sculpture, painting, &c." [82]

Hunter's appreciation of art was not limited to respect, but amounted to real discrimination, as we can surmise from the description of his

[81] Cf. Hunter's remarks on Sterne as quoted in J. Parkinson, *Hunterian reminiscences*, Sherwood, Gilbert, & Piper, London 1833, p. 20: "Mr. Sterne used to say . . . that many a man died because he would not resolve to live, for scarce any man need die without he gave himself up; for that he need but call up his powers, and determine to force his lungs to act: and he, in his last illness, actually thus exerted himself, and jumped out of bed; but his death, which soon followed, shewed his mistake." It seems a safe inference that Dr. Slop in *Tristram Shandy* was not modelled after Hunter. Yet cf. J. Foot, *Life of John Hunter*, T. Becket, London 1794, p. 252, concerning Hunter's profanity: "Sterne's Dr. Slop could not have been a match for him."

[82] J. Hunter, *Essays and observations*, I, 371.

collection when it was sold at auction at Christie's early in 1794. It included engravings by Hogarth, Strange, Sharp and Woollett; paintings by Reynolds, Zoffany, Loutherbourg, Zuccarelli, Vandevelde, Xuys, Ostade, Teniers, and Stubbs.

Hunter had one friend at least who may have been able to give him expert assistance in choosing his pictures. Of the three of his friends whom his brother-in-law, who lived in his home for many years, singled out as men to whom Hunter lay "under particular obligations," [83] one was a famous patron of the sciences, Sir Joseph Banks, and another a patron of the arts, Charles Greville,[84] perhaps less familiar to the present generation as a lover of the arts than as a friend of Emma Hart's before she became Lady Hamilton.

No matter what the nature of the advice Hunter sought or received in making his collection, he was his usual opinionated self in accomplishing his ends: there is a letter preserved that he wrote to Jenner saying: "I have a picture of Barret and Stubbs. The landscip. by Barret and a Horse frightend at the first seeing of a lion by Stubs. I got it for five guineas. Will you have it? I have a dearer one, and no use for two of the same master's." [85]

The contents of the collection itself reflects to some degree Hunter's primary interest; Ostade and Teniers were Dutch artists famous for their portraits of medical consultations, and Hunter is said by Mitchell [86] to have owned two portraits of Harvey, though Keynes [87] knows of no evidence supporting the fact that he owned more than one.

John Hunter, like his brother William, was well acquainted with the celebrities among British artists. Mary Home, his sister-in-law, married Robert Mylne, the famous architect, and presumably Hunter knew him: we may reasonably conjecture that it was from the designer and engineer

[83] E. Home, "A short account of the life of the author," in J. Hunter's *Treatise on the blood, inflammation, and gun-shot wounds*, Thomas Bradford, Philadelphia 1796, I, xix.

[84] Charles Francis Greville, son of the first Earl of Warwick and brother of the second Earl. He was an early patron of Romney and of Thomas Lawrence, and after Hunter's death was for a time Vice-President of the Royal Society.

[85] Paget, *op. cit.*, pp. 139-140. Original letter in the possession of the Royal College of Surgeons of England.

[86] S. W. Mitchell, *Some memoranda in regard to William Harvey, M. D.* [no publisher named], New York 1907.

[87] I am grateful to Mr. Geoffrey Keynes for information concerning the portraits of Harvey owned by the Hunters. Further details will appear in his *Vicary Lecture*. William Hunter, too, owned a portrait of Harvey, for all he disparaged him in his lectures.

of the Blackfriars Bridge that Hunter knew that " in sinking the caissons for Blackfriars Bridge, a human skull was found twelve feet under the bed of the river." [88]

He knew others, too, of Mylne's profession, and sufficiently well to ask them favours. He wrote to Robert Adam, for instance, on 31 May 1787: " I beg leave to sollicit your vote & interest for Dr. Baillie my Nephew to succeed to an approaching vacancy of Physician to St. George's Hospital." [89]

Jenner told a story demonstrating his acquaintance with Loutherbourg [90] and showing him as a critic of the artist.[91] That Hunter was right in his criticism and Loutherbourg wrong in his execution is clear from the comment of more nearly professional connoisseurs than John. Walpole, for instance, wrote, " We have a Swede, one Loutherbourg, who would paint landscape and cattle excellently if he did not in every picture indulge some one colour inordinately." [92] Hunter's opinions on Loutherbourg's incursions into the field of therapy are not recorded, but it is safe to assume they were strong ones: Loutherbourg and his wife at one time recommended barley-water as a panacea for all ills and at another were passionate adherents of Mesmerism, and became highly popular " healers," claiming to cure disease by touch; " they were besieged by great crowds of patients whom they professed to treat gratis . . . but it was discovered that they were in collusion with certain agents who sold their ' free ' tickets for whatever they could get." [93]

John Hunter too, like his brother, knew many of the engravers, whose technique was such a necessary one to him for the dissemination of his own discoveries, and he is said to have known Pine, Vivares and Woollett, whom the eighteenth century held in higher repute than does the twentieth. He may have had at least a semi-professional curiosity about Vivares, who is said to have been the father of thirty-one children. Pine, who made two portraits of William Hunter, has already been mentioned as the model for the Friar in Hogarth's " Pool of Bethesda." Hunter's interest in

[88] J. Hunter, *Essays and observations*, I, 321.

[89] Extract from loose sheet of a Maggs Brothers catalogue inserted in Dr. John Fulton's copy of J. Hunter's *Essays and observations*, in the Historical Library, Yale University School of Medicine. Original letter in the possession of the Royal College of Surgeons of England.

[90] The Swedish artist who first came to England to design scenery for Garrick. He is " Mr. Lanternbug " in General Burgoyne's play *The Maid of Oaks*; his friends called him Leatherbag.

[91] See Farington, *op. cit.*, I, 165.

[92] Walpole, *op. cit.*, IX, 186.

[93] Garrison, *op. cit.*, p. 387.

Woollett was certainly ultimately professional: John describes it as quoted by Parkinson:

> Poor Woollett, the engraver, died under one of these cancer-curers: he was under my care, when this person took him in hand. He had been a life-guardsman, I think, and had by some means got a never-failing receipt. I continued to call on Woollett as a friend, and received great accounts of the good effects; upon hearing which, I said, if the man would give me leave to watch regularly the appearance of the cancer, and see myself the good effects, and should be satisfied of its curing only that cancer (mind, not by destroying), I would exert all my little power to make him the richest man in the kingdom; but he would have nothing to do with me, and tortured poor Woollett for some considerable time; till at last I heard the sound testicle was gone, and he at length died.[94]

Hunter would have been the more grieved for his friend's death had he suspected what its effect would be on the family of the engraver.[95] Had Hunter been alive the money would have been advanced to save young Woollett from debtors' prison. Hunter paid special concern to the finances of his artistic friends, and refused to accept fees of them for his own professional services, which may be one reason he numbered so many of them among his patients.

Joseph Farington, for instance, was one of his patients.[96] He tells in his *Diary* of 1794, about Hunter's treatment of Gainsborough.[97] Reynolds, too, he attended in his final illness, although his relationships, direct and indirect, with Sir Joshua illustrate well the fact that his interest in artists did not necessarily stop with their clinical symptoms. The association between Sir Joshua and John Hunter dated back at least as far as 9 December 1768, when Reynolds, presumably at William Hunter's request, went to St. George's Hospital to vote for John, the successful candidate for the office of surgeon to the Hospital. On any ordinary day one might not be surprised at the artist's journeying from Leicester Fields to Hyde Park Corner—a trip Hunter must frequently have made. But it is interesting that he could take the time that particular day, in view of the kind of activity Reynolds was indulging in with reference to the establishment of the Royal Academy.

> During the absence of Reynolds from England, Sir William Chambers, West, Cotes, and Moser, formed the outline of a constitution of an academy, and petitioned the King to adopt it. Chambers in person had waited upon the King towards the

[94] Parkinson, *op. cit.*, p. 161.
[95] See Farington, *op. cit.*, VII, 187.
[96] See *ibid.*, I, 6-7.
[97] See *ibid.*, I, 75 and I, 263.

end of November, to explain the design of the proposed institution, and to present the memorial praying for the sanction of the King. . . . On the 7th of December Chambers had a second interview with the King, at which a definite scheme of the new Academy was submitted and approved. All that now remained was the selection of the members and officers.

A list was made out of thirty names, including that of Reynolds, to be submitted to the King with a list of officers. A meeting of the artists was appointed for the 9th, to take place at the house of Wilton the sculptor, the King having named the next morning to receive the lists.

Penny and Moser called on Reynolds, but failed in securing his attendance at the meeting. West then went to him immediately, and informed him of the arrangements that were in progress for constituting an academy, and that thirty artists named by the King, of the forty members of which it was intended it should consist, were to assemble on that evening at Wilton's. Reynolds was still slow of belief. He told West that Kirby had assured him in the most decided manner that there was no truth whatever in the rumour of such a design being in agitation; and that he thought it would be derogatory to attend a meeting constituted, as Kirby represented it, by persons who had no sanction for doing what they had undertaken. To this West answered, "As you have been told by Mr. Kirby that there is no intention of the kind, and by me that there is, that even the rules are framed, and the officers *condescended* on, yourself to be President, I must insist on your going with me to the meeting, where you will be satisfied which of us deserves to be credited in this business."

In the evening at the usual hour, West went to take tea with Reynolds, before going to the meeting; but either from design or accident, tea was not served till an hour later than usual—not, indeed, till the time fixed for the artists to assemble at Wilton's; so that, when they arrived there, the meeting was on the point of breaking up, conceiving that, as neither Reynolds nor West had come, something extraordinary had happened. But on their appearing, a burst of satisfaction manifested the anxiety that had been felt, and without any farther delay the company proceeded to carry into effect the wishes of the King.[88]

The warmth of Reynolds' sentiments towards John may be measured by his willingness to oblige him on the crowning day of his own career. To what degree Hunter reciprocated during Sir Joshua's life-time is not easy to judge. He was called in during Sir Joshua's final illness, and assisted in the postmortem examination. Presumably his attentions to the artist did not stop even here, and the surgeon was called upon to attend Sir Joshua's final obsequies. According to Ottley, who probably got the story from James Palmer, the editor of John Hunter's *Works* and Sir Joshua's great-nephew, John "fairly wished Sir J. Reynolds and his friends at the d - - - l when called on to take part in the funeral of this

[88] C. R. Leslie and T. Taylor, *Life and times of Sir Joshua Reynolds*, J. Murray, London 1865, I, 295-297.

eminent artist." [99] No matter what Hunter's wishes in the matter, he apparently nonetheless attended; certainly he is included among the participants in both Malone's [100] and Farington's lists of them. If indeed he attended, Hunter must have been aghast at its pomposity. The artist's funeral was said to have cost £1,000; Hunter's own was to cost £74.10.0. But then, as his biographers have remarked, " The painter was somewhat chary of making presents of his pictures. He used to say he found they were seldom highly valued unless paid for." [101] It will be remembered that Hunter refused to accept fees from artists. Sir Joshua had apparently charged Hunter the usual fee for his portrait: his price book for 1785 showed a receipt: " John Hunter, Nov., second payment, £52.10.0." [102] Somewhere in men's minds there is a ledger that balances such accounts, and the debit shines out a more vivid " dark crimson " [103] than Reynolds' colours now faded from his portrait of John Hunter.

There are, however, interesting aspects of Sir Joshua's portrait of Hunter, other than the financial. In the first place, there is still much about the painting that remains mysterious: the date of the actual completion of the original version of it, the explanation of John's many sittings after the portrait was supposedly complete, the exact number of portraits, or copies of portraits, painted by Sir Joshua, are matters of mystery even to those who have had access to Sir Joshua's notebooks. There is also much that is mythical about the execution of the original portrait, and there are many variations of the story " that after the painter had made several ineffectual attempts at securing a pose, Hunter, fatigued, fell into a train of thought, and that Sir Joshua at once fixed him, while thus absorbed in his own reflections." [104]

There are variations, too, in the stories concerning the exact manner in which arrangements were made to have the portrait painted. But there is general enough agreement that it was at the behest of William Sharp, whom Hunter was said previously to have befriended, and who was a friend of Sir Joshua's too. The most familiar story is that Sharp persuaded Hunter, over his objections that he could not afford the expense,

[99] Ottley, *op. cit.*, I, 87.

[100] Edmund Malone, the Shakespearean editor, Sir Joshua's executor and a close friend of Johnson's.

[101] Leslie and Taylor, *op. cit.*, I, 148.

[102] *Ibid.*, II, 481.

[103] Leslie and Taylor (*ibid.*, II, 475) said of the portrait when it was still bright, " the dress is of dark crimson velvet "; it was a contemporary convention for the physician to wear red.

[104] *Loc. cit.*

to sit for the portrait in order that he, Sharp, might make his fame by engraving it.

The interesting aspect of this version of the story is that it should have been such a man as Sharp whom Hunter wished to oblige. Arisen from simple beginnings, like Hunter himself, Sharp probably first attracted Hunter's attention by the excellence of his work. He probably further endeared himself to the surgeon by his intellectual originality, which was to be exaggerated eventually to pathological extremes. But Sharp was an odd man to attach himself to a surgeon of Hunter's abilities. Certainly if ever they spoke of anatomy or surgery, Hunter must have made incredibly little impression on his listener, who was to become an ardent disciple of Swedenborg and Mesmer, and the scientist must have been unable to convince his listener not only of the usual factual peculiarities of the living organism, but even of its definition. Later, after Hunter's death, Sharp was to take up with the famous visionary, Joanna Southcott, who terminated her career, at the age of 64, as spectacularly as she had lived it, by a strange illness which would seem by present criteria to have involved the production of a phantom tumour (she considered herself, after all, the Wife of the Lamb); Sharp refused to believe that she was dead. She must herself have entertained some doubts as to the line between life and death, since her body, at her own request, was kept warm for four days before postmortem examination. The latter necessarily proved negative; but her brain, whose condition after four days' incubation in situ can probably be better imagined than described, was not examined; nor could her type of disorder be expected to leave visible traces at its source of origin. But it would seem well for Sharp that Hunter had himself departed the world too soon to have opportunity to comment on what he certainly must have characterized roundly in his own unequivocal terms.

Sharp was to make other connections, too, that Hunter must certainly have frowned upon: in his youth he was accused of treason by the Privy Council for his republican tendencies, expressed in his adherence to Tom Paine and Horne Tooke. The story is repeated that at one point during the proceedings, annoyed at the incessant questioning, he interrupted them to proffer a subscription list for his engraving from West's portrait of Kosciuszko to Pitt and Dundas for their signatures; and it has been suggested that this levity was sufficient to convince the Council that he might be acquitted as harmless. After Hunter's death, too, he was to contract allegiance with another fanatic, Richard Brothers,[105] who himself

[105] Brothers had decided in 1792 that he had a commission from God, and having become

escaped prosecution for treason only because the Government was sufficiently discerning to commit him to an asylum rather than the Tower.

Hunter's relations with Sharp shed light on the scientist's character. Sharp was years Hunter's junior, like Blake a mystic, almost to the point of irrationality, and a champion of the very causes that Hunter most strongly opposed. Hunter's partiality towards him proves the surgeon's appreciation for the high quality of work well done; more than that, however, it demonstrates unequivocally the strength of his desire to encourage the development of intellectual independence, and thereby it presents a more vivid likeness of John Hunter than does even the magnificent engraving itself.

While John Hunter's biographers have many of them minimized his interest in fields of endeavour other than his own, and though he is said to have "hated fiddlers, laced ruffles and Frenchmen," [106] he had a true appreciation for music. No man whose fibre failed to respond to its stimulus could have written of it, as did John Hunter: "Nothing shows the effects of sound upon the body more than music. No man would be inclined to dance without music: the music determines also the kind of dance. *Music is universal; the mind immediately feels its effects, and has recourse to it, as much as the body for food.*" [107]

Mrs. John Hunter, as has been pointed out elsewhere, was a close friend of Haydn's when he was in London, and wrote words for his songs.[108] John Hunter had no lines of poetry for him, but wanted to give him the benefits of the fruits of his own profession. Haydn was afflicted with a

convinced that the lost tribes of Israel were disseminated through England, he had a revelation in 1795 that King George must give up his crown to him as Prince of the Hebrews and Ruler of the World. Sharp believed in him firmly, and portrayed him as Prince of the Hebrews in an engraving which in its own way is perhaps an even more desirable collectors' item than the engraving of Hunter. The artist inscribed it, "Fully believing this to be the man appointed by God, I engrave this likeness. W. Sharp." His printer modified the inscription to read, "Fully believing this to be the man appointed, by God I engrave this likeness." Sharp's friend Joanna Southcott, who was first an ardent disciple of Brothers, but who later denounced him, a few years later defaced the engraving with red paint. It is interesting that she was able to wean Sharp away from Brothers, a task Hunter probably would not have been able to accomplish had he lived to attempt it.

[106] J. G. Mumford, "John Hunter, 1728-1793," *Boston Med. & Surg. J.*, 1906, CLIV, 202.

[107] J. Hunter, *Essays and observations*, I, 176. Italics by present author.

[108] Oppenheimer, "Anne Home Hunter and her friends," *J. Hist. Med. & Allied Sci.*, 1946, I, 434-445.

nasal polyp which Hunter repeatedly offered to remove for him, only to be put off by the composer from week to week. Finally, when Haydn was about to depart for the continent and home, Hunter one day pleaded with the composer to come to his home, " for an urgent reason." Haydn described the visit in an entertaining passage in his diary. " After the first compliments," he reported, " several hefty fellows came into the room, seized me and wanted to sit me on a chair. I screamed, struggled violently, and kicked until I freed myself, and made clear to Mr. Hunter, who stood with his instruments ready to operate, that I would not in any case allow myself to be operated on. He was amazed at my perversity, and it seemed to me that he pitied me for not wishing to be so fortunate as to experience his skill." [109]

Hunter, however, was probably less interested in Haydn as a prospective patient or as a composer, than as a man who could say as he was approaching the zenith of his fame, in words which expressed Hunter's own first desire: " My great ambition is to be recognized by all the world as the honest man which I really am." [110]

Though John clearly indulged himself in the pleasures of music and art, no better commentary on his position with reference to literary scholarship can be made than one borrowed from the Grevilles:

Scholarship, or if you will, learning, is perpetually rung in my ears as the *summum bonum*, the one thing necessary to man. . . . But I confess, that after much reflection and much enquiry, I am yet at a loss to comprehend this mighty advantage of scholarship; some advantage to be sure it has, but perhaps not to minds of the first class; it sometimes prevents the excursions of a vigorous understanding by keeping it in a beaten track. It perpetuates error by imposing received opinions upon those who, if they had begun the enquiry, would have discovered truth; it divides the attention, and sometimes fixes it to subjects which are not suited to that particular genius and turn of mind which nature would have exerted on some other, the object of her own choice, with infinite advantage: by loading the memory it restrains imagination, and by multiplying precepts it anticipates the judgment. Give me the man whose knowledge is derived from the copious source of his own reason, whose mind is filled with ideas that sprung not from books but thought; whose principles are consistent because deduced in a regular series from each other, and not scraps of different systems gleaned from the works of others, and huddled together without examining their incongruity: where is the scholar whose opinion is entirely his own? and where the genius whom we wish to have known the opinion of others? [111]

---

[109] C. F. Pohl, *Mozart und Haydn in London*, C. Gerold's Sohn, Wien 1867, II, 210.
[110] L. Nohl, *Life of Haydn*, Johnson, McClurg & Co., Chicago 1883, pp. 102-103.
[111] F. and F. M. Greville, *Maxims, characters and reflexions*, J. & R. Tonson. London 1756, pp. 42-43.

This passage was written by a man who was both patron and student of William Hunter's friend Charles Burney. They were words which never could have been spoken of William, but which had they been uttered two or three decades later (they were published in 1756) might well have been considered as composed with John in mind; and it is more than probable that John's studied emancipation of himself from the trammels of the past was one of the primary factors which enabled him to soar into realms of thought far beyond his brother's aspiration.

ACKNOWLEDGMENT

I should like to thank the following publishers for their kind permission to quote excerpts from volumes on which they hold copyright: Ernest Benn Ltd., Cambridge University Press, W. & R. Chambers Ltd., Clarendon Press, Constable & Co. Ltd., The *Lancet*, Methuen & Co. Ltd., and W. B. Saunders Co. I am grateful to Mr. W. R. LeFanu, M. A., Librarian of the Royal College of Surgeons of England, both for his courtesy in allowing me to use quotations from documents in the possession of the Royal College of Surgeons, and for his general interest and helpfulness. As always I am obligated to the Historical Library of the Yale University School of Medicine and to the Library of the College of Physicians of Philadelphia, both for the use of their collections and for much helpful assistance.

THE FIRST DESCRIPTION OF YELLOW FEVER: JOAM FERREYRA DA ROSA'S *TRATTADO UNICO DA CONSTITUIÇAM PESTILENCIAL DE PERNAMBUCO*

KARL A. BAER

Few facts about the physician Joam Ferreyra da Rosa have come down to us. His birth and death dates are unknown. He received his education at the University of Coimbra and practiced medicine at Pernambuco for an undetermined number of years, including the period from 1686 to 1695. A statement of Santos [1] to the effect that he later returned to Portugal and practiced at Lisbon, finally being elevated to the rank of " Médico da Real Câmaran " could not be verified.

On April 29, 1695, Ferreyra da Rosa was called upon by the Marquis of Montebelo, Governor of Pernambuco, to testify against the wisdom of opening graves in churches where the victims of the preceding yellow fever epidemic were buried.[2] At the same time, he advocated additional " hygienic " and prophylactic measures. He had established himself as the outstanding expert on " bicha," or yellow fever, by his only known literary production, the *Trattado unico*.[3] This work had been published one year earlier and represents the first full account of a yellow fever epidemic.[4] Ferreyra da Rosa's priority in this field cannot be seriously questioned. Several earlier writers describe epidemics more or less closely resembling yellow fever, but Dr. Chanca's report referring to Columbus' voyage of 1493 is altogether too vague,[5] while Du Tertre (1667)[6] and Lopez de Cogolludo (1685)[7] are historians and do not present full

[1] L. Santos Filho, *Historia da medicina no Brasil* (Sao Paulo, 1947), p. 342.

[2] For the text of this document, see E. Ennis, *As guerras nos palmares* (Sao Paulo, 1938; Brasiliana v. 127), p. 458 seqq.

[3] Joam Ferreyra da Rosa, *Trattado unico da constituiçam pestilencial de Pernambuco* (Lisboa, 1694).

[4] Cf. H. R. Carter, *Yellow Fever; an Epidemiological and Historical Study of its Place of Origin* (Baltimore, 1931), p. 49.

[5] Cf. V. Fossel, in Th. Puschmann, *Handbuch der Geschichte der Medizin* (Jena, 1902-05), II, p. 836.

[6] Jean-Baptiste du Tertre, *Historie generale des Antilles habitées par les Français* (Paris, 1667-71), I. p. 422.

[7] Diego Lopez de Cogolludo, *Historia da Yucathan* (Madrid, n. d.). Not seen; quoted by Carter, *op. cit.*, p. 147 seqq.

TRATTADO UNICO DA CONSTITUIÇAM PESTILENCIAL DE PERNAMBUCO OFFERECIDO A ELREY N. S.

POR SER SERVIDO ORDENAR POR seu Governador aos Medicos da America, que assistem aonde ha este contagio, que o compusessem para se conferirem pelos Coripheos da Medicina aos dictames com que he trattada esta pestilencial febre.

COMPOSTO POR JOAM FERREYRA DA ROSA. *MEDICO FORMADO PELA UNIVERsidade de Coimbra, & dos de estipendio Real na ditta Universidade, assistente no Recife de Pernambuco por mandado de Sua Majestade que Deos guarde.*

EM LISBOA.

Na officina de MIGUEL MANESCAL, Impressor do Principe Nosso Senhor, Anno 1694.

COURTESY ARMY MEDICAL LIBRARY.

clinical and pathological data. Hence the epidemics described by those authors have not been generally accepted as referring to yellow fever.[8]

The *Trattado unico*, therefore, constitutes an important document in the field of medical history; it is interesting to note how it has served as a basis for the reports of later writers. The story of the first victim of the epidemic as told by Ferreyra da Rosa[9] is retold identically even in the smallest details by writers from Rocha Pitta[10] and Fonseca Henriques[11] down to Fernandes Gama.[12] Their publications range in date from 1730 to 1847, and appeared in Portugal, in Holland, and in Brazil. Such wide and continued use of the *Trattado* is surprising in view of the fact that it is an extremely rare book. We were able to locate only two copies: one in the British Museum and one in the Library of Lisbon.[13] Of these two, the Lisbon copy seems to be incomplete, as Dr. Magelhaes Coutinho[14] states that the work consists of two *disputadas*, whereas there actually are three. No copy is to be found in Brazil[15] nor in the United States; the acquisition of the book by the Army Medical Library can therefore claim more than ordinary interest. This copy, bound by Randeynes in 19th century tree-marbled sheep with panelled full-gilt back, is in an excellent state of preservation.

The preliminary matter—which includes imprimaturs by no fewer than six authorities—shows that the book was written upon orders of Dom Pedro II of Portugal, presumably given through the then Governor of Pernambuco, the Marquis of Montebelo. Its author was guided by the immediate practical purpose " to be useful to these provinces in whose town the lack of physicians has led surgeons, barbers, and other persons to meddle with the art of healing " (*Prologo ao leytor*). Nevertheless, one

[8] Cf. A. A. de Azevedro Sodré and M. Couto, *Das Gelbfieber* (Wien, 1901), p. 5.

[9] p. 11 seq.

[10] Sebastiano da Rocha Pitta, *Historia de América portugueza* (Bahia, 1878), p. 294. (First ed., Lisbon, 1730).

[11] Francisco da Fonseca Henriquez, *Medicina lusitana* (Amsterdam, 1731), p. 781.

[12] J. B. Fernandes Gama, *Memorias históricas da provincia de Pernambuco* (Pernambuco, 1844-47), IV, p. 23, and R. Pinto de Mattos, *Manual bibliographico portuguez*, . . . revisto e prefaciado pelo C. Castello Branco (Porto, 1878), p. 263.

[13] Cf. Innocencio Francisco da Silva, *Diccionario bibliographico portuguez* (Lisboa 1858-1923), III, 372. Also Ennes, *op. cit.*, p. 60. The existence of a third copy, in Washington, D. C., is claimed by A. A. Moll, *Aesculapius in Latin America* (Philadelphia, 1944), p. 180. We were unable to trace that copy.

[14] J. B. de Magelhaes Coutinho, in *Gazeta medica de Lisboa* (1857), as quoted by da Silva Lima, p. 195 (see next note).

[15] J. F. da Silva Lima, " Documentos e notas acerca da pestilencia da bicha . . . em Pernambuco e na Bahia de 1694," in *Gazeta medica da Bahia*, XXIII (1891), p. 193.

of these "meddling" surgeons is to be credited with having given a clear and useful report on the first autopsy ever performed on a yellow fever victim. Antonio Brebon,[16] surgeon on board a merchantman which suffered several casualties during the passage from Pernambuco to Lisbon, was summoned as witness before the Corregidor at Lisbon on October 26, 1691.[17] Ferreyra da Rosa prints his testimony, not without fuming at Brebon for having "himself falsely advertised as discoverer of a treatment for this disease." These are some highlights of Brebon's testimony:

While the ship was still in the harbor of Pernambuco several crew members were taken ill with the very symptoms of the local epidemic (*doença da terra*) from which the cook had died in the hospital at Pernambuco. During the trip, some of those who had been taken ill died. And after the fourth death, seeing that the remedies and medicines used did not help, the decision was made with the Captain's permission to open that body for anatomical examination . . . He began with the chest, where he found no lesion nor anything else which might have caused death. Going down to the stomach and to the belly region, he found the lower part of the liver to be putrid and of different color than natural while other parts of the liver were not affected. And spleen and lungs were healthy and without any lesions; the gall-bladder was practically dry and of a different color than it should have been. He found that the corruption of the liver was present in the beginning of the veins coming from the liver itself[18] but he is not convinced that the worms which he found were able to penetrate into the liver. And continuing the examination of the stomach, he found in its membranes a quantity of viscous liquid of a black color like soot, and in the stomach itself some large and small long worms. And proceeding to the intestines, he found therein some swellings which he opened and found full of the same worms. And in the membranes of the intestines, he found the same kind of black liquid as in the stomach. And examining the bladder (because one of the patients' complaints was retention of urine), he found therein something like little straws and in the urine a sediment as in the water of a puddle. And this, he testifies, he understands to be caused by the worms. No further autopsy was made in order not to frighten the crew. And he also declared that in the stomach he found a flatulent swelling like a drum.

On the basis of these findings, Brebon believed the disease to be caused by parasites and therefore applied worm remedies—emetics and laxatives—as cure, and vesicatory plasters as a palliative against the pain in joints, head, and other parts of the body. Ferreyra does not give credence to

[16] Not Pedro B. as given by Sodré and Couto, *op. cit.*, p. 8.

[17] The original court proceedings were found in the Archivo Publico of Bahia and published by F. J. da Silva Lima, *loc. cit.*, p. 145-156.

[18] Or possibly: was originating in the veins coming from the liver. The Portuguese reads: "estava no original das veas que vem do mesmo figado."

Brebon's etiology nor does he put any trust in the "empirica" recommended by that "Pseudomedicus"; he promises to indicate methodical and rational remedies himself. Ferreyra da Rosa is, however, not carried away by his zeal to show up his rival; in the *Trattado* proper, he proceeds in a leisurely and methodical manner, dividing his subject into three *disputadas*: Nature, cause, symptoms, prognosis and precautions; manner of treating the disease by *remedios grandes*, diet, alexipharmaca, and sedatives; and finally, "what to do" against certain frequent symptoms which are to be watched carefully, because they "often are more dangerous than the disease itself." The first *disputada*, originally submitted to the Governor alone as a paper complete in itself, commands considerably more interest than the other parts and even anticipates in the seventh, eighth and ninth *duvidas* the remedies whose discussion supposedly is reserved for the following *disputadas*.

In spite of the author's apologies for being unable properly to document his paper, the first *duvida* boasts an impressive apparatus of quotations in support of the author's classification of the epidemic as a "continued putrid fever"—proof that the fundamental medical works of his time were at his disposal. His observations characterize the disease which had ravaged Pernambuco for seven years as "a serious one such as was never seen there before" [p. 2], and he adds:

> The disease was very acute, ending the life of most patients in 6 days, and when it was slow, in 9; and many died in two days and some—but very few—did not outlast 24 hours. Even though the number of dead here at Recife does not considerably exceed 2000 . . . the blow was extraordinary considering the small number of inhabitants.
>
> All things have their beginning, their growth, culmination and decline; and regarding the present time, I believe that in its first three or four years the epidemic has had its beginning, growth and culmination, at least as to its extent. Observation proves [p. 5] that the number of cases today is much lower than previously, the epidemic is in its decline and there is less likelihood of its attacking everybody than before. But, as to its intensity, it still preserves its violence and kills just as quickly as before, but only a few of the patients are treated scientifically [p. 6].

Ferreyra da Rosa also stresses the greater incidence of the disease in the winter because "exhalations and vapors have their effects upon us in the winter rather than the summer, as experience teaches; and therefore the epidemic rarely succeeds in maintaining itself through the summer" [p. 8].

As causes of the disease he names the ones generally ascribed to pesti-

lential fevers in that day. Besides the usual mention of sin and the punishment of God, special importance is ascribed to the astral influences of the eclipses of sun and moon in 1685—later called by Rocha Pitta [19] the " first signs of the fatal attack of yellow fever (*bicha*)"—and to the vapors of foul meat: " This was seen clearly when a cooper of the Rua da Praya, who opened some barrels of putrid meat that had arrived by ship from San Thomé, immediately collapsed and died soon after, and the same thing happened to four or five more that lived in the same house, and the epidemic took its beginning through this same street " [p. 11-12]. Ferreyra da Rosa rejects the hypothesis that a nearby lake could have anything to do with the epidemic, giving as his reasons that its water is not stagnant and that no adverse effects had been noted before.

The fourth *duvida*, " Which are the symptoms of this epidemic? ", is the real cornerstone of Ferreyra da Rosa's work and the basis of his claim to medical fame. It reads in part as follows:

There are three types of symptoms; change of general condition, impaired action, excretion and retention. A mild fever is present and great pain . . . But in cases that show high fever and at the same time signs of extraordinary anxiety, one has to be equally afraid . . . I believe that a light fever may appear as a characteristic sign because this kind of malignant putrefaction is such that it makes [p. 24] the body unfit to generate vital spirits. This lack of spirits is followed by debility of all parts . . . and the hidden quality of this epidemic produces far-reaching effects disproportionate to the manifest symptoms . . .

I warn with Maroja that, in this disease, there are no certain symptoms that may be enumerated as in pleurisy; it seems sufficient that there be just one very dangerous symptom, or many symptoms of which none by itself indicates great vehemence, but which together bring about pernicious effects. The following symptoms indicate danger of life while the many concomitant or preceding symptoms do not appear equally dangerous [p. 25].

The pulse appears frequent and listless. And Pedro Miguel de Heredia says that frequency of pulse with listlessness is a pathognomical symptom of fever of pernicious character. And I myself experienced it to be a certain sign of this condition, when I found that symptom on the first day while other signs did not yet cause me any fear . . .

Then again, the pulse often is practically normal in the beginning, as Galen says; this may happen when the malignant humor is still far away from the heart or not yet very putrid, or because of a robust disposition, driving out the poison. We should not trust such favorable symptoms if there are any other ones to the contrary because all faculties are connected with each other, and there is a certain harmony between them which brings it about that if not all faculties will suffer from the first assault, they will suffer from the second one . . .

The patients have a labored wavy respiration as the vital and animal spirits

[19] *Op. cit.*, p. 293.

suddenly dissolve under the influence of the malignant and pestilential vapors causing putrefaction near the heart.

They also suffer from violent headaches and many (but not all) find themselves aching painfully in the region of the stomach . . . there is secretion of bile or putrid phlegm [p. 26].

The patients suffer more from thirst than from fever . . . only in a very few cases there is no thirst because the patients' humors are thickened and corrupted . . .

Headache is present right at the beginning (and thereby the epidemic distinguishes itself from most fevers). Also, in the very first days, we observe tremor of the hands and the tongue, notable restlessness and in some cases, great apathy due to the diminution of the spirits. This apathy sometimes denotes future delirium, which then renders the patient who is concentrating on some objects of his delirium unaware of his sufferings.

The patients suffer great lack of appetite, an everpresent symptom in this disease; and it is more pronounced when the cause [of the disease] is close to the stomach, causing vomiting, nausea, hiccup, pain, anxiety, and sadness of the heart.

Strong insomnia is present (due mostly to the headaches), and entire nights are spent without sleep; and when they sleep, then it is with great restlessness, and the sleep is very turbulent and terrible, and with such fits of delirium that they get up and run out into the streets naked, if they are not watched carefully. As late as in the Armada of 1692, I saw a sick seaman, a native of Porto, who ran through Recife at night [p. 27], looking for a friend; and he did the same thing during daytime, entering the Church Matriz do Recife in his shirt. Also, almost all patients suffer from gooseflesh, while the fever continues and even is observed to become higher.

There is no certain symptom in the stools, because some patients have diarrhea in the beginning, while others do not; some patients have coarse urines, others almost normal ones.

One has to fear two symptoms most of all: the icterus (or, by another name, Morbus regius) and the suppression of urine. The first one is a troublesome and miserable sign for the future when it comes before the seventh day . . . but, even though in a very few cases only, I was able to cure some patients showing this symptom . . . However, I never saw a suppression of urine which was not accompanied by icterus.

Of the two symptoms, the last one (suppression of urine) is a certain sign of approaching death; I did not see any patient showing that symptom who recovered; nor did I hear of any recovery even though I inquired from surgeons, barbers, and practically everybody, but I found nobody to say that one of those patients lived.

At the same time, it is to be noted that some who were able to urinate freely and abundantly, did not escape either [p. 28].

Pain all over the body is not lacking—particularly in the ilium (cadeiras) and in the legs; this symptom is common to all patients; almost all patients showing no other symptoms but this one survive [p. 29].

The fifth *duvida* is given over to the question of prognosis:

. . . generally and briefly speaking, the disease ordinarily endangers mostly men

of the most flourishing age and of the best temperament, and usually the ones with good complexions, that have an abundance of blood.

In the first two years the majority of those who were taken ill perished, but ever since, this epidemic has lost strength and today, while it attacks just as many as ever, hardly one tenth of these succumb and, at present, almost everybody recovers who is treated scientifically . . . [p. 30].

After some more polemics against " pseudomedici " and indiscriminate bleeding and purging, we come upon the following important contribution to symptomatology which we should rather expect to find in the preceding *duvida*:

Our experience shows that most patients live if they do not show certain symptomatic evacuations up to the third or fourth day; and a patient showing them is in great danger of his life . . . and he will die with pain in the stomach vomiting dark bile [*atra bilis*] and in the same way, when it [*atra bilis*] descends into the intestines, while the sphincter ani becomes loose; and they suffer great pains in the hypochondriac and hypogastric region from the acrimony of the humors . . . [p. 32]. The urine usually comes out red and thick; this is always accompanied by high fever, and if bloodletting does not improve this condition, it endangers almost all patients, as it means great inflammation and torrefaction . . . [p. 33]. A sign to be feared is tremor and faintness observed in taking the pulse . . . and these patients practically always become delirious and . . . die.

While the preventive measures suggested in the following (6th) *duvida* are not in any way original with our author, the following passage seems worthy of quotation:

And I have to report that many patients were taken ill on the days when they went to church after their return home, and many even right at the church; the latter mainly during the first two or three years. And I and my servant attended mass—both arriving in perfect health—at the Church of Our Mother at Recife, but left at the end of the mass seriously ill, arriving home only with great difficulty" [p. 41].

The general hygienic measures recommended in the 6th *duvida* are followed by advice to the individual (7th *duvida*) how best to escape the dreaded disease. This advice is grouped into rules concerning the six " causas non naturales " and special " medicinal " prescriptions. One remedy is considered important enough by the author to be treated in a separate *duvida* (the eighth). This is the Copauba oil, which he thinks is good for practically anything from toothache to gonorrhea and tuberculosis. Actually, however, his recommendation of this oil as a remedy against pestilential diseases is only very casual. This chapter seems rather out of place. Probably Ferreyra squeezed it in in the mistaken belief of

being the first one to report on the Copauba tree and the medical use of the oil; actually, the tree, the oil and its medical uses had already been described half a century earlier by Piso [20] and Marcgravius.[21]

The first *disputada* ends with the author's resigned acknowledgment that there is no infallible "simple" against pestilential disease; even alexipharmaca are uncertain of success, "and with reason, because this disease is a special punishment of God for the sins of man." The author's therapeutic suggestions in the two following *disputadas* are devoid of any historical or medical interest—the last word remains the old pest rule: *Fuge cito, longe; tarde revertere* [p. 58].

[20] Gulielmus Piso, *De medicina brasiliensi* (Leyden, 1648), p. 57.

[21] G. Marcgravius de Liebstad, *Historia rerum naturalium Brasiliae* (Leyden ,1648), pp. 121, 131.

TEXTS AND DOCUMENTS

REGIMENT DE PRESERVACIO A EPIDIMIA O PESTILENCIA E MORTALDATS

Epistola de Maestre Jacme d'Agramont als honrats e discrets seynnors pahers e conseyll de la Ciutat de leyda

1348

Regimen of Protection Against Epidemics or Pestilence and Mortality

TRANSLATED INTO ENGLISH BY

M. L. DURAN-REYNALS

AND

C.-E. A. WINSLOW[1]

Every day experience shows us that when a dwelling catches on fire all the neighbors become afraid, and the nearer they live, the more frightened they become. Therefore, as I have heard from people deserving of faith that epidemics or pestilence and mortality of people reign and have reigned in some parts and regions neighbouring ours, it is no wonder that there are doubts and fears; and while all death is universally held very terrible, sudden death is particularly dangerous, especially to the soul. It is still more terrible since we know that it is also accompanied by very terrible symptoms. As I am a native of this city and have received my being in it, and am constantly receiving, and have received, divers honors and great profits from the whole city and from its notables, I want, making use of my little science, to render some service and to save from damage the city aforementioned and its notables, and to save all men and women from becoming sick in times of pestilence. Therefore I decided to prepare the following tract which, humbly and with due reverence I, master Jacme D'Agramont, present to you, honorable Aldermen and Councillors of the City of Lerida, as to all who represent the aforementioned city. And I trust that it may please you, my Lords, to receive it benevolently and graciously, not in proportion to the value of the gift,

[1] Contribution from the Historical Library of the Yale School of Medicine. A rough translation of this tract is among the Klebs papers in the Yale Historical Library; but it was obviously not in form for publication and the authors take full responsibility for the present reading based on the Catalan text which has been discussed by C.-E. A. Winslow and M. L. Duran-Reynals in *Bull. Hist. Med.*, vol. 22, pp. 747-765, 1948.

but in recognition of my good will and affection, since thus says the wise Cato: Exiguum munus cum dat tibi pauper amicus. Accipito placide pleneque laudare memento.

And no one should wonder that in this treatise I only present the regimen of prevention, and that I do not discuss the cure of the diseases that in such times occur. Because in this I am not incited by envy or iniquity but by true love and charity having made this present tractate principally for the benefit of the people and not for the instruction of the physician, as I am one of the most insignificant of the medical profession in the world, in comparison to many others.

Everybody can make use of the regimen of prevention presented in the present tractate without a physician and without danger. But the regimen of treatment properly belongs to the physician, since in this anybody without the art of medicine could easily err, and in order to avoid this, no mention of treatment is made here. And as the said tractate, as already expressed above, is prepared for the common and public good, may it please you, my Lords, to give it to anybody who wishes to make a copy of it. And thus be pleased to receive this work into your hands and hearts and grant your favor to its author.

Introduction

Introduction. Chap. i. Properties of temperate air in its qualities and its substance.

When the air of a region or city is temperate in its complexion or in its qualities, and is clear and clean, and pure in its substance, such air has wonderful properties, because in the first place it much prolongs our life, promotes cheerfulness and preserves health. It strengthens our understanding so that it views and contemplates the truth in many high and subtle matters. It also promotes the contemplation and the true realization of certain events to come. It has also a quality of "tyria," that is, having the properties of theriac against all poisons and all poisonous beasts. Thus, it is a certain fact that in some isles of Ireland no poisonous beasts can live, nor can the people that inhabit there die of poisons or venoms. It is also a matter proven and certain that dead bodies there when left in the air and not buried, at no time rot or decay. Therefore it is evident that in such a region the air has a marvelous quality of "tyria," that is, the property of theriac.

Introduction. Chap ii. Circumstances which may corrupt, alter and distemper the air.

A change can occur in the air in two ways, either in its qualities, which change is called alteration, or in its substance, which change is called putrefaction. And from each one of these changes there follow certain and diverse properties in the air. It is manifest that a diversity of complexions results in diverse properties, and also that upon diverse putrefactions there follow diverse properties.

That with a diversity of complexion there ensues a diversity of property is easily proved as we see that men of diverse complexions have diverse conditions and diverse properties and manners. Some enjoy hearing songs and instruments, (as do those whose complexion is well proportioned) while there are others to whom it is painful to listen and hear song and music because their complexions are corrupt and disproportioned. And thus we see that those who are ill may not desire to hear melodies of song and instruments which in health would give them great pleasure. Also we see some eager to eat and drink sweet things, as do the phlegmatics, and others who enjoy eating and drinking acid things as do the cholerics. Also we see some all day long joyful as the sanguinics, and others continually sad, and never laughing from the heart as do the melancholics. Others again are daring and quarrelsome, viz. those of bilious nature (cholerics), others are timid and of soft manners, viz. those replete with phlegm and black bile. This is also shown by the fact that certain medicines of diverse complexions have diverse properties and virtues, thus lettuce has certain properties and pepper has others.

The fact that from a diversity of putrefactions there follow diverse properties is easily proved as we see that by putrefaction of phlegm outside of the veins a fever arises called " quotidian," with the property of beginning every day; and by putrefaction of bile another fever arises which is named " tertian " with the property of beginning every other day. And through the putrefaction of black bile arises the " quartan " with the property of beginning every fourth day. And when I say *outside the veins*, it is because all the above said humors can also putrefy inside the veins, in which case a continuous fever is produced.

And this can also be proved in another manner. By the putrefaction of the earth is generated a multitude of living things, each one of diverse kind and diverse property such as serpents and lizards, rats and newts. And by the putrefaction of the air are generated flies and locusts, each one of diverse kinds and diverse properties. And by the putrefaction of

the water are generated frogs and serpents and eels. But in the element of fire, no putrefaction whatever can take place because of its heat and dryness, for anything to putrefy must have some humidity. In contrast to the others, this element has very great simplicity and purity because it touches directly the first heaven, that of the moon.

I do not suggest that any element in its simple essence can putrefy; rather (it should be said) that the earth or the water or the air which putrefies is a body composed of four elements, of which one predominates.

Having indicated how a diversity of complexion and putrefaction in the air is followed by a diversity of properties, it is to be noted that the change of the air in its qualities can take place in two ways, the one which is called " natural," the other " contra-natural." Natural change is such as takes place when the sun withdraws from or approaches towards us every year. Thus, we find great cold in the air in winter time when the sun is in the sign of Aquarius, and we find great heat in the air in summer time when the sun is in the sign of Leo. And also we find that in springtime when the sun is in the sign of Aries or in the sign of Taurus the air is temperate in heat and cold.

Contra-natural change takes place in two ways. One, when in summer it is very cold and in winter very hot which is a change very dangerous to man and to all living things. The other, when in lands, normally temperate and well suited for living, the summer is so fiery that its great heat corrupts and paralyzes the growth of herbs and trees, and of fruits and wheat. Or, when the winter becomes so cold that by its great freezing it interferes with the natural warmth of man and beast, and injures the trees and other living things. Or, similarly in the spring, when it ought to be naturally temperate it is either hot or cold as above described.

Since we have spoken of the changes of the air in its qualities let us now speak of the changes in its substances. This can again take place in two ways. Putrefaction of the air can lead sometimes to the generation of things living, such as we see when in summer with rain there is a shower of frogs and toads, and other living things from the air. And sometimes on the other hand, its putrefaction does not lead to the generation of any living things.

If one were to ask me which of the two types of putrefaction is the worse, I say the second because it signifies something very repugnant and disproportionate in the air from which no spirit of life can rise. Such air must be most unfavorable to our life. And, for that reason, in our body which is called the microcosm, from decay of phlegm may arise worms and vermin with the spirit of life, while from decay of bile or of

black bile nothing can generate, because of the essential antagonism between decayed bile and our body. This is why these substances cannot receive the spirit of life.

Therefore if, in the air, so many and diverse changes, as well in its qualities as in its substance, can cause diverse properties and from diverse properties there may follow diverse consequences, no man should wonder if the air is sometimes the cause of sudden death of the people; and of diverse pestilential fevers or sores or of abscesses in the axilla or in the inguinal region or in other parts of the body or that the small-pox or worms or other maladies, most perilous and mortal should prevail. And such times can be called times of epidemic or of pestilence.

The Tractate in Six Articles

Article I. Chap. i. The definition of pestilence.

I maintain that pestilence is a contra-natural change of the air in its qualities or in its substance; from which arise in living things corruptions and sudden deaths and various maladies in certain determined regions beyond their ordinary.

I said firstly that *pestilence is change*. Because change is the essential factor in an alteration of the qualities and the putrefaction of a substance.

I said a change *of the air*. For change of quality or of substance in the earth or in the water cannot cause the pestilence of which I speak here, unless it is followed by change in the air. And I say "of which I speak," because among fishes a pestilence can break out through change in the water in its quality or in its substance. We often see mortality among fishes; but this is not associated with mortality among men and birds, or other beasts. The pestilence of which I speak is common to all beasts and to all living things because in such times we see how serpents and other reptiles flee from their holes and issue hurriedly from them, the birds leave their nests and flee as we shall see later on in the third article on the signs. We see also that wheat and other fruits growing from the earth are affected by such a pestilence, which reigns or has reigned; and they carry such great infection that they are like poisons to all those who eat them.

For this reason, in those places which are close to the sea, where people live upon wheat brought from afar, they must ascertain with care from what regions it has come. They must assure themselves of the quality of such victuals if perchance they know that a pestilence has reigned in the regions and ports from where the victuals usually come. It is better to

eat a sauce of good garlic, than one of cloves or of cinnamon or of muscat nut which may be corrupt and poisonous.

I said afterwards: *contra-natural change*. Because change of the air which is natural, such as when passing from winter into summer, as we have already mentioned above, is not pestilence.

I said afterwards: *in living things*. One must know that among the things which are subject to the laws of nature there are to be distinguished three degrees of life. To the first degree belong the things that take nutriment and that grow. These have no reason and sentiment, such as herbs and plants of all kinds. To the second degree belong the things that take nutriment and grow and also have feeling, such as fishes and birds and other beasts. To the third degree only, belongs man who takes nutriment and grows, and has feeling, and besides has reason and understanding. And upon all these degrees of living things the pestilence can fall according to what I have above said.

I said afterwards: *in its qualities or in its substance*, because the nature of the air is subjected to those two modes of change as we have already explained above.

I said also: *arise corruptions* from the first and second degrees of living things (herbs, cereals, trees, fruits and beasts) because in proportion to the benefit they can convey to our bodies they can also acquire the property of poisoning and destroying them.

I said also: *and sudden deaths*. Thus, when you have seen one of your friends healthy and joyful to-day and to-morrow you hear he is dead. In such times all faithful Christians must be ready to render good and loyal account to their Master when it pleases Him to call His servant and to demand a reckoning.

I said afterwards: *and various maladies*, because some die of fever that shows nothing externally while inside it burns and scorches the heart. Others die of abscesses in the armpit or the groin or in the heart, infants die of smallpox or measles, and others by worms, others lose their memory. Galen tells us that he saw a pestilence in a region in which the sick lost their memory so that they could not recall their own names.

I said afterwards: *in certain determined regions*. Because every plague begins in one region. But then sometimes it moves to others by one of three processes. First by contiguity, because a corrupt air easily corrupts another near by and one sees manifestly that this is so by the experience in a similar case, viz. when a rotten pomegranate or a rotten apple contaminates the ones next to it. One sees also that when a pomegranate or an apple becomes partly rotten, the putrefaction soon spreads to the whole

pomegranate or the whole apple. The second process is the transportation of foods, bread and meat, from a pestilential region to another, where those who eat them fall ill of similar maladies which they will pass on to others. The third process operates when winds carry the more corrupt and pestilential air from one to another region as will be shown later in the second article.

Also I said: *beyond the ordinary*, for certain regions have customarily certain maladies, as for instance the Kingdom of Valencia has anthrax which means " mala buaynna or buba negra," as it is called in the vulgar tongue of Catalonia. And, in Sabartes, frequently a malady occurs which is called Bocium that is goitre. And in Lombardy, some times the women instead of having a child give birth to a monkey. In Catalonia the fevers reign. In Germany they hardly know what is meant by fever, although abscesses are frequent. In France many females are born lame or deformed. But in pestilential times there often occur in the regions affected very strange maladies not observed before. There are moreover strange symptoms so that the signs which in other times every physician can consider as signs of good prognosis, are mortal.

Article I. Chap. ii. The Meaning of the term, pestilence.

Having explained the definition of a pestilence, we must now interpret its name. It is said that pestilence when truly interpreted means a " time of tempest " caused by light from the stars. The first syllable *pes* signifies tempesta, and the second syllable *te* signifies temps, and the third *lencia* signifies light, because lencos in Greek signifies brightness, light, or lum in Latin.

Article II

In what manner pestilence arises and manifests itself.

Part 1. Causes which produce in the air a universal pestilence for a whole region or for several.

Article II. Part 1. Chap. i. Universal pestilence, its causes and nature.

As regards what we have said in the 2nd Introductory article about summers being terribly hot and winters exceedingly cold and fatal by the act of God or because of our deserts, an example is given in the ancient writings Exod. chap. X. where Pharaoh maltreated the people of Israel so that God sent, among other plagues and curses, scorching wind and

locusts. And no one doubts that He could have sent also a wind exceedingly cold and mortifying.

Another reason why summers are of raging heat and winters of deathly cold is that in summer many hot planets approach the sun and the Dog-Star and by such a conjunction the force of the sun is doubled and strengthened. On the other hand the winter is excessively cold when many cold planets approach the sun which, by being far away, has already very little heating power and, now by this conjunction, this power is much decreased while the power of the planets to chill is greatly fortified.

But the contrary may also happen. When summer is very cold and winter is very hot, it is for the following reasons. When in summer many cold planets approach the sun, its power of heating is much diminished. And in the same way when in winter many hot planets approach the sun, its power of heating is increased. By reason of these conjunctions, the air in summer is chilled and in winter heated.

But it is not my intention to say that the air in winter is as warm as it is in summer, nor in summer as cold as in winter, since I realize that this is impossible in nature. Properly speaking it is meant that the air in such winters has a much lessened and feeble cold and likewise the summer has a lessened and feeble heat . . .

Another factor besides the above-mentioned influences may be that of the various winds engendered by the forces of nature. Thus, sometimes in summer an austral or southerly wind prevails, popularly called the sea wind. And this produces great heat in summer, and the contrary takes place when a septentrional or tramontane wind prevails; such winters are very cold. But when the austral or midday wind prevails it is just the contrary.

However, it happens sometimes that the midday wind before reaching our regions, passes over deserts or over great forests which are on fire, perhaps over an area which would take four or five days to traverse; and such a wind when it reaches our regions is very hot and burning. And thus the air is unnaturally hot. It can also happen that the tramontane wind, before reaching these regions, passes over harbours or over snow-covered mountains, and when it reaches our regions is very cold and freezing, and thus our air becomes unnaturally cold and penetrating.

Article II. Part 1. Chap. ii. Universal pestilence, its causes as regards its substance.

The pestilence of the air which involves contra-natural change, or putrefaction in its substance, can also come from various causes. Sometimes

it is sent by God because of our sins. Thus it is said in the Holy Scripture in the old testament, Deuteronomy, Chap. 28 that God omnipotent promised to his people very great and very marvelous benedictions if they observed and kept his commandments. And likewise He threatened and menaced them with many powerful maledictions in case they did not observe His ceremonies and commandments, ubi sic dicitur. Quod si audire nolueris vocem domini dei tui ut custodias et facias omnia mandata eius et cerimonias quas ego precipio tibi hodie, venient super te universe maledictiones iste et aprehendent te. Maledictus eris in civitate, maledictus in agro. Maledictum horreum tuum, et maledicte reliquie tue. Maledictus fructus uteri tui et fructus terre tue. Armenta boum tuorum et greges ovium tuarum etc. And more follows to our purpose: Percuciat te dominus egestate, febre et frigore ardore, et estu, et aere corrupto ac rubigine et persequatur donec pereas. There is more in that chapter to the further confirmation of our purpose. Percuciat te dominus ulcere egipti et partem corporis per quam stercora egeuntur, scabie quoque et purrigine. Ita ut curari nequeas. Percuciat te dominus amentia et cecitate ac furore mentis et palpes in meridie sicut palpare solet cecus in tenebris et non dirigas vias tuas etc.

Also you may read in the second book of Kings Chap. 24, that, for the sin of vainglory and pride, God slew a great multitude of people with the plague. Thus, David proclaimed that he had counted all his people and found that Israel had 800,000 men at arms and Judea 50,000 and about this he boasted, wherefore God sent the plague and slew of his peoples 70,000 men, and he would have killed more had not David repented and acknowledged his sin.

And to show that God, because we deserve it, sends pestilence and mortality and other persecutions to us, the trials above described are sufficient for the present, although in the Holy Scripture there are many other examples, as the plagues of the Pharaohs. Exod. 7 and 8, 9, 10 and 11th Chapters. And also the mortality of the people of Israel which God sent them because of the murmurs that had arisen against God and against Moses and Aaron. Num. Chap. 14. And similarly others.

Another cause from which plague and pestilence may come is from wicked men, children of the devil, who with venoms and diverse poisons corrupt the foodstuffs with evil skill and malevolent industry. But properly speaking such mortality is not the pestilence of which we speak here, although it must be mentioned because in some regions near to ours there are now many deaths as in Cobliure, in Caracassonne, in Narbonne, in the barony of Montpellier and in Avignon and the whole of Provence.

Still another cause which gives rise to the pestilence of which we speak in this chapter is the conjunction or the apposition of the planets. And in support of this, Albert in his book on the properties of the elements (II. ii, 1) says that when Saturn and Jupiter are in conjunction in the same sign and in the same degree, there comes mortality and decrease of populations, and depopulation of kingdoms. And it is a great wonder that such conjunction could have such an influence because it is certain that Jupiter has qualities contrary to those of Saturn which should correct its malice. As regards this point, Albert suggests that this influence prevails on account of an occult property which has no proper name, like the property by which rhubarb purges the bile and a turbid phlegm. Also the property by which a magnet attracts iron has no proper name. And it is certain that an influence of the stars, which is the result of specific virtues, is stronger than any other. A similar pestilence, due to similar causes can arise in the waters and produce great mortality among fishes.

And sometimes such pestilence can come from the power of the winds because hot and humid winds increase the humidity of the air. And humidity is the mother of putrefaction. Also, it may arise in another way, when in battles and long sieges a great number of people and horses have been killed and they are not buried. Then the putrefaction of the dead bodies brings about great infection and corruption of the air. Also from decayed bodies, arise flies and poisonous worms in great quantity, a thing that happened as a fact in Catalonia when the King of France and his men laid siege to the City of Gerona. It is commonly known that then, as by miracle, these flies were generated. There was no remedy for this situation, since the works of nature are produced by the power of God. What God in his power ordains must be fulfilled, considering the injustice and the iniquities of men and the grave sins and heresies they have committed, which we need not elaborate.

It sometimes happens that a wind rises and reigns strongly for some days and carries pestilence and putrefaction to another region whereas, to the region where the pestilence once prevailed, it brings pure and clean air from other localities. Thus, Galen states that from dead bodies in Ethiopia, pestilence and mortality came to Greece. This is why when there is pestilence in Sicily or in Sardinia the wind of ' midday ' is very dangerous to Catalonia, whereas the septentrional or tramontane wind is then most excellent and beneficial. If, on the contrary, the pestilence should be in Gascogne or in Toulouse or in France, the Northern wind would then be very dangerous to us whereas the ' midday ' wind would be most beneficial.

Furthermore, pestilence can come from the earth, because many humid vapors are formed in the interior of the earth which is the cause of the source and issue of great fountains and rivers from high places and mountains. Also in the interior of the earth there are formed exhalations of fumes which at times make the earth shake, and said vapors and fumes mix with the air, tending to corrupt, to thicken and to denaturate its substance.

And if one asks me why in Lerida fog gathers in winter, I should say that all the places around Lerida have everywhere great humidity so that all the land or a large part of it is well watered. And the heat which is in the earth is greater in winter than in summer, because the natural springs are warm in winter and very cold in summer. Hence, the great heat within the earth moves and evaporates the strong humidity of the earth and this vapor thickens the air. This is similar to the effect of fire under a pot that is full of water.

If one asks me whether this mist brings about pestilence and bad influences notably on man and on other things such as cereals and fruits, I say no. And my reason is as follows; because mist does not rise generally except in winter, and in winter the air is cold, therefore such mists do not cause putrefactions in the air, because for putrefaction two things are necessary—heat and humidity. But I say also that if in summer such mists do rise, they will produce pestilence and maladies in human beings and corrupt trees and fruits which according to the vulgar Catalan, "are blighted." And this is a matter proven by experience. Furthermore, such mists sadden people who are not used to them, because the spirits of our body are clear, luminous and resplendent and the soul, which is firmly fixed in the spirits, rejoices in light and clearness, and is sad in darkness.

If one asks me why, if the spirits of our body are luminous and resplendent, they cannot be seen by the corporeal eye, I say that this is because of the rarity and subtility of their substance. Also, it is certain that above the air and under the sky of the moon, is the sphere of fire. And by its nature fire is clear and luminous. Yet its luminosity cannot be seen by our corporeal eyes, because of its rarity and subtility of substance. And for that same reason our corporeal eyes can see the stars and cannot see the substance of the sky though sky and stars are of the same nature. But the stars are of a more compact nature and the sky of a much rarer and more subtile nature, so that the one can arrest our sight and the other can not.

Another source from which pestilence can arise is from the waters,

because when there are putrefactions in water from the causes named above, from the heat of the sun there may rise from the water vapors, which are much more malicious and dangerous than the water in its primary substance; and being more subtile and more penetrating they mix with the air, and corrupt and rot it in its substance. For all these reasons, above explained, there may arise a pestilence in the air and a universal mortality among a people of one or more regions.

Article II. Part 2. Causes which produce a particular pestilence.

Article II. Part 2. Chap. i. Causes which produce a pestilence particular and appropriate to one city only.

Pestilence particular to one town may occur because the locality may be surrounded by pools, irrigation ditches and basins full of water which does not drain off, as in Tortosa and Oristaynn.

Another reason for a local pestilence may operate in a town shielded towards the east as in the case of Tortosa, because the sun has great power to purify the air. And for this reason, Lerida on the contrary ought to be protected from the plague.

And if one asks me why Lerida is a town which suffers from many maladies, especially in summer-time, although it is on a height and exposed to winds, especially eastern winds, and open to the rising sun, I believe that this is due not to bad air, but to an excessive regimen of fruits and viands, because of their abundance. And we can state it as a general rule, that every locality where there is scarcity of viands and fruits is healthier in summer than another where the opposite prevails. Because the use of much fruit, and the problem of storing great quantities of divers viands is a very important factor in bringing about maladies, and preventing long life.

Another reason why pestilence may have unusual prevalence in one town is because of its lowly site, with high mountains on every side. The common people call such a town a " smothered " place, as is Seo de Urgel, because such a town cannot be well ventilated, and ventilation removes putrefaction from the air. Therefore the common people put their clothes out to air so that they may not become foul and mildewed.

Another reason for local pestilence is the presence of many trees, especially high ones such as poplars which hinder the ventilation of the air, especially walnut trees which have a special tendency to corrupt the air, and also fig trees which have a similar property. And therefore the

common people say, and it is quite true, that to sleep in the shade of a walnut or fig tree is a bad and dangerous thing. Because of this fact, the town of Lerida has been much healthier since the poplars by the fountain were cut.

Another reason for local pestilence is filth, because to prevent pestilence in a town one must take vigorous steps to avoid the throwing out of entrails and refuse of beasts, or dead beasts near the town. Nor should manure heaps be placed inside the town. Nor must it be permitted that inside the town, in the streets, either in day-time or night-time, any excrement be deposited or thrown out nor must there be kept inside the town skins to be soaked for tanning nor should cattle or other beasts be killed or butchered as has happened. From all such procedures great infection of the air occurs, in Paris, in Avignon and in Lerida.

Another possible reason for prevalence in such a locality is the bringing in of corrupt viands from pestilential regions, especially bread and wine, for these are the victuals taken in largest quantities.

Another reason is contact with those sick of the pestilential malady, because from them it is transferred to others as wild fire. And it continues to spread unless God in his pity gives us His grace.

And if one asks me which are the maladies that can thus be transferred from one person to another, I say that these are leprosy, or scabies, phthisis and ophthalmia, pestilential fever, smallpox and measles and skin diseases. And, in general, all maladies that come from pestilential air.

But Aristotle in the seventh book known as de problematibus raises the following question: Why is it that as the sick person suffers an alteration of his blood changing it from health to sickness, does not the blood work an alteration in the sick person to change his state from malady to health? To this question the following response may be made. Malady is change and health is a state of equilibrium. Hence one must expect that health will be static while disease will be active.

We realize that the reply although true may not be clearly understandable by all. One might say that health is balance and sickness is unbalance. And the unbalanced thing is of a higher degree of quality than the balanced because it provokes stronger action and greater power of change.

Besides, in order that a malady may be communicated to another there is required above all a disposition in the body of the one who acquires it. Because impressions are always easily exerted on matter that is predisposed, one commonly says that it is not good to bring the fire too close to the hemp.

And if one asks me again who those are who are disposed and receptive

to pestilential maladies, I say that they are chiefly those that have a body full of humors, especially corrupt and putrid humors. And also those who, the whole year long, rejoice in eating and drinking much. And those who have frequent intercourse with women. And those who have the pores of their bodies kept open either by artificial means, as those who bathe frequently; or naturally, as those who are oversensitive to hot or cold; and who sweat too readily; and those whose bodies are hairy, because abundance of hair denotes wide porosities of the body.

Article II. Part 2. Chap. ii. Causes which produce a pestilence particular and appropriate to one street only.

Plague particular to one street can arise by the first reason already cited regarding pestilence in a particular town. This principle holds good for the bridgehead of Lerida which is signally a more unhealthy street than any other in Lerida. The second cause mentioned above operates in the case of the monastery of the Minorite Friars and the Predicants of Lerida. The fourth case applies to the bridgehead. The fifth applies to the tripe butchery of Lerida. It is most astonishing how in such conspicuous and notable places in the City such great infection is allowed to persist. Another local factor may operate when, perchance, the street is close to a market-place where vegetables, especially cabbages, are sold. The odor of the leaves of decaying cabbages has the property of corrupting the air.

Article II. Part 2. Chap. iii. Causes which produce a pestilence particular and appropriate to one dwelling only.

The reason why pestilence invades a particular house may be because the house is dirty in the ways above described, or also because it is located in a closed-in place that cannot be aired, or on a rheumatic site.

Also for another reason, that is, when those of the house have eaten decayed wheat or drunk rotten wine, because for this reason as already said those may die who live together in one house. Hence, as a general rule everyone must be careful not to drink wine treated with chalk, because it burns the blood and liver, and dries the chest, and brings on dysentery. Also one must diligently avoid manuring the vineyards because wine from such vineyards is very putrefying and produces fevers of all kinds and buboes. Also it dulls and thickens the spirits and does not reenforce the virtues. But this is not the case with the pomegranate tree because it is fertilized, especially with dung of swine, and watered with cold water, and the fruit is thus improved.

Also a further reason, is association with a sick person who has the pestilential malady, since we have seen and heard, from persons worthy of belief, that the master and the servants died of the same disease, and even the physician and the confessor.

Therefore all physicians should guard in times of pestilence, against financial cupidity, because he, who has such a motive, may bring about his own death and that of his friends. Unless he be a son of avarice and greed he would have given all the treasures of the world to avoid such a result.

Article III

The signs of pestilence, due to changes of the air in its substance.

Article III. Chap. i. Signs announcing its coming.

The signs of the pestilence due to change in the quality of the air we need not elaborate. They are clear and manifest to all those who can distinguish the difference between hot and cold. Therefore we have only to speak of the signs of the pestilence due to change and corruption in the substance of the air, of which some announce a future pestilence, while others characterize a pestilence which is already present. Among the signs which announce a future plague are the appearance of fiery bodies in the sky. Some of these stay in one place, as judged by our eyes, such as comets. And I say as judged by our eyes, because in truth a comet is not continually in one place but follows continually the movement of any one or more planets by the virtue of which it has been generated.

There are other fiery bodies which are mobile, and of those there are some which appear to be very large, and are called flying dragons. Such a one was seen in Lerida by many notable persons worthy of belief in the year 1345 on the last day of February just before sunrise. The width of this was larger than one great shaft of a lance and according to trustworthy estimates twenty lance-lengths long. And it had greater brilliancy, than any lamp. Among all who saw it there was a great fright. There are others that appear to be only of the size of a large beam, and others appear to be in the shape of a lance shaft of which some are discontinuous, so that one part after the other becomes inflamed, which phenomenon is called a " jumping goat " or " shooting star."

Of these said inflammations there are some that move towards the earth. And there are some that make their movement upwards and towards the element of fire.

And if one asks me why these said inflammations move towards the

earth as they are of the nature of fire, for naturally fire rises towards the sky, I say that these inflammations do not make such a movement because of the fire, but follow the matter in which the inflammation is generated as when one puts fire to hemp in a high place and throws the hemp down, it is certain that the burning hemp will go towards the earth, thus, according with our general proposition.

And if one asks me why the said inflammations are frequent at one time and rare at another, I say that this depends on the multitude of exhalations from the earth into the regions of the air drawn by the power of the sun, and the power of the planetary conjunctions. It is said that sometimes a very great inflammation falls over some town or grove and burns a great part of the earth, by which burning many bad vapors and fumes rise and mix with the air, corrupting and altering its nature, thus poisoning it. This happened in fact this present year (1348) in Turkey.

It also cannot be denied that Almighty God, because of the evil conduct of the people in those lands and of their neighbors may have sent the fire from the sky, or created it anew from the earth so that it would burn and destroy all those people as he destroyed two towns because of carnal sins against nature, that is Sodom and Gomorrha (Genesis chap. xix) as can be read in the Holy Scripture. All faithful Christians should accept such chastisement and correction, just as the little child does when he sees his companion hurt and punished.

This particular sign of the pestilence is not only a sign but is itself the cause which gives rise to pestilence. Yet everything which presents to our understanding that which may come, can be called a sign. Generally speaking all the things that produce the pestilence in the air and in the people can be called signs, may they be constellations or winds or other things. Therefore when we see bad conjunctions take place between the planets, inimical to our life, we conclude that in time to come there will be maladies and deaths. Also when we see that in winter the South or sea-wind prevails, that it rains much and continues in spring, we may conclude that the summer and the autumn will be pestilential. And similarly we can draw similar conclusions from the other factors which contribute to create pestilence.

There is another sign of a future pestilence; as when there is great diversity (in temperature), in the air, so that it may be mortally hot and soon after, even on the next day there is great cold, or one day the morning is cold and the evening hot or vice-versa.

Article III. Chap. ii. Signs announcing pestilence already present in the air.

Among the signs announcing pestilence already present, is cloudiness in the air. It looks as if it should rain and still it does not rain. And also that the whole air is filled with dust. Again, another sign is that the air has no color and yet it seems as if it were yellow or greenish. Another very sure sign is when the snakes or lizards and other reptiles, as also the frogs, are present in abundance and issue from the corners of the earth and from the water in more horrible degree than usual.

Another sign is when the birds flee from their nests and abandon their eggs. Another is that the symptoms of disease among the people are abnormal and deceptive. Thus, the patient may be outside apparently quite cool while inside around the heart there is fire, which burns greatly. Also, sometimes the patient will not feel feverish, nor will the physician upon touch find him so, the pulse is not very different from normal, and the urine shows that there is digestion. Still, suddenly the patient dies. The physician is astonished as one who does not understand what has happened.

Also, those that have pestilential fever are not hot outside, and they have large stools which they cannot stop. Their breath and flatus are very corrupt and foul to the point that it is very hard to bear.

Another sign: in such a time, many pestilential fevers prevail of which I have already spoken, accompanied by bad sores and abscesses such as anthrax or " mala bufaynna," smallpox and worms, and other malignant maladies. Therefore when one sees such fevers and such maladies develop and multiply one can easily conclude that there is putrefaction and corruption in the substance of the air.

The last sign is that the fruit is blighted and the grain harvested that year will not keep, and is of strange odor. The bread made with this wheat keeps neither taste or flavor as it used to do in other years.

Article IV.

Alteration and corruption of the air producing pestilence in living things and especially in our body.

Article IV. Chap. i. Corruption which makes air pestilential in quality.

It is known that pestilential air has the power by its heat to burn herbs, vegetables and cereals and trees,—it dries the earth drawing all nutriment from the plants that themselves dry and perish. And if pestilence acts

by excessive cold, it equally takes the life away. Therefore we see that some trees such as orange trees cannot live in very cold earth. And I say that in Valencia and in Mallorca and also in Barcelona it is so cold in some years that all orange trees die. And in Lerida, in some years, it has been so cold that not only orange trees but all the herbs and trees died. Thus, such cold air can do a great deal of harm to our bodies.

One must recognize that the air can alter our bodies in various ways, both outside and inside. Outside, if it is very hot, the pores of our bodies are opened and this produces a resolution of the natural heat and spirits. Such a process weakens the vital powers, dulls the mind, and produces resolution of the subtile blood so that the skin becomes livid. Thus, in hot countries the people are black, or their blackness tends to yellowishness as in Sardinia and Sicily. And this increases and stimulates the bile.

It also affects the body inside tending to chill the heart and to dissipate or decrease its great heat, thus bringing the body and the spirits and the arterial blood to a still greater heat, making the bile prevail over all the other humors, increasing and strengthening its qualities which are heat and dryness. Thus this air can become the cause for all bilious maladies.

And if perchance the air is exceedingly cold it can also bring about changes in our body inside and outside. Outside it closes the pores. And if the cold is so great that it can penetrate into the body, it mortifies the natural heat, by which fact many people are killed by great cold. Also it causes apoplexy, which is an affection of the brain, which brings about the loss of movement and of feeling which renders men so inert that one cannot tell whether they are dead or living, either by the pulse or by the breath.

In order to prove whether they are dead or alive, take a bit of fine thin wool and put it near the nostrils or the mouth, and if there is some breath the wool will move with the issue of the breath from the nostrils or the mouth. Another test: put a vessel quite full of water over the chest in the region of the heart. If perchance the heart has any movement, the water will move. If it does not move, the patient can be left to the priest. There are other signs but these will do for the present.

In truth to discuss these signs is outside of our plan. But it is well to present them for the common good. Because it is certain that often many men and women who suffer from this affliction are thought to be dead by the common people and many are buried alive. Therefore we advise that those who are subject suddenly to such accidents be carefully watched and examined by physicians to prevent their being buried alive. Or at least that the counsel of Avicenna be observed, to wit, that bodies

are ready for burial only after 72 hours, that is, after three natural days entire and complete.

Exceedingly cold air also causes epilepsy, or the falling sickness, and it also causes paralysis, and contractions of the face, eyes and mouth.

But fresh air, not excessively cold, makes for good digestion and otherwise promotes the health of the body. This is because such air is not pestilential and therefore it is unnecessary to say more about it.

Article IV. Chap. ii. Corruption of pestilential air in its substance.

Pestilential air by the putrefaction and change of its substance brings about many and diverse changes in our bodies, in various manners. It corrupts them, rots all fruits and cereals, and, corrupting these, it corrupts the humors also.

Moreover, this corrupt and rotten air, through breath and respiration, goes straight into the heart. And it corrupts and fouls the arterial blood which is engendered in the ventricles of the heart. It corrupts also and fouls the vital spirits, and this corrupt blood passes by the veins which pulsate and are called the arteries, to the other organs. And such putrefaction or corruption of the blood corrupts and decays the rest of the blood by contact.

And this blood by interaction with the substance of the heart may give rise to abscesses therein. Sometimes nature rids itself of it and throws it into the axilla which is like a latrina or sewer of the heart, and it then causes an abscess. Sometimes it is transmitted to the liver, and the liver transmits it to the inguinal region, as to its own latrina or sewer and there it results in an abscess. Sometimes this putrid blood boils like young wine and makes its way to the outer parts of the body. Here it manifests itself as smallpox and measles. And sometimes the putrefaction takes place especially in the phlegm whereby all kinds of worms arise. I may state as a general rule that in all the said maladies there is always continuous fever, of one or more humors according to the manner by which these humors receive the impression or putrefaction of the pestilential air.

And if one asks me if the fever comes first and then come the maladies above-mentioned or vice versa, that is if the fever is a sequela or accident of the said abscesses, I say that the fever comes first and that afterwards come the abscesses and the smallpox, as a sort of end result of the pestilential fever.

Article V.

The regimen of prevention.

Article V. Part 1. Regimen to observe against air pestilential in its quality.

Article V. Part 1. Chap. i. Regimen in excessive heat.

If the air is pestilential because of the excess of heat, in such times men must stay in places naturally or artificially cool. Naturally cool, are the Serrania in Aragon or the mountains of Prades in Catalonia. Also he can stay and sleep in underground houses with windows away from the tramontane wind, provided, however, that the air be not rheumatic and stale. For such air does much harm to the head, to the chest and to the lungs.

Artificially, one can cool the air in various ways. The floor of the room may be sprinkled with vinegar and rose water. Also, one may spread on the floor branches of willow, and leaves of cinnamon, and white onions and bunches of myrtle and roses. Also one can make pillows filled with dry roses which one places at the head of the bed. Also, one can cause water to be distilled in various parts of the room which would be as good as if one had a running fountain in the room. Or one can take a big bowl full of very cold water and place it in the centre of the room and with a scoop take up some water and pour it back into the bowl. Or one can drench linen sheets in the cold water and hang them up on a stand.

Also, one must wear such clothes as do not heat the blood, but temper and cool it, such as garments of silk or of thin and delicate linen. But likewise one must take care not to wear too light clothes so as to take cold, because as said before, at such times, cold and penetrating winds may suddenly rise. Therefore, in such cases one must not remain in a place where the cold wind blows so as to make a strong draft. Therefore it is a good precaution to protect oneself at all times against such danger by wearing next to one, a thin doublet of linen or of silk lined with cotton, such garments protecting in the way spoken of above; that is they guard against inflammation of the blood and also against sudden chilling; thus, the Lombards who are masters in the art of living since the oldest times never go out without such garments.

Also, must one continue in such times to eat cold foods such as pumpkins and melons, lettuces, purslane and cucumbers, and others similar, provided that there is no objection to them because of great weakness or upset of the stomach. But at such a time one must avoid drinking wine of natural

great strength, such as Greek wine or that of Bernascon, because at such times watered wines are much better. Also concentrated wine and wine preserved and treated with alum or with chalk or with lime are to be avoided for such wines tend to burn the blood and the humors. One must also use in such times sorrel and vinegar, and the juice of oranges and of lemons, except in special cases where there is cold in the pit of the stomach or dryness of the chest, or cough, or catarrh or similar other symptoms.

Article V. Part 1. Chap. ii. Regimen in excessive cold.

When the air is pestilential because of excessive cold, one must select places which are either naturally or artificially warm. Naturally, the kingdom of Valencia or the land of Tarragona are such places. And one must sleep in a room where the sun can enter, and with windows toward the east, or toward the south; and if by mischance windows open toward the north they must diligently be kept shut.

Artificially, one can warm the air in the following way: one can make in the room a fire of grape-vine roots well dried, or rosemary, or juniper, or live branches. The fire should be clear with as little smoke as possible because smoke is bad for the eyes and the chest.

As regards one's position near the fire certain precautions must be observed. One must turn one's back toward the fire, because turning one's face toward the fire has two dangers: first, it affects the digestion because it draws the natural heat towards the outer regions of the body; secondly, it weakens the eyesight, wherefore people who like to turn their face toward the fire must hold something before their eyes.

Also must one wear clothes and garments that protect him from the outside cold, and hold the natural heat inside, such as are made of fine wool especially dyed red or linings made of miniver, of rabbit or hare skins, or of fine baby lamb's wool; and to wear tight fitting clothes at such times will always be advantageous. And, always, one must guard one's feet and head from cold, because these members are remote from the heart which is the fountain of heat, and especially when lying down to sleep, because during sleep the natural heat goes to the inner members.

Also, in such times, one ought to take considerable exercise, such as going to hunt on foot, or jumping, or wrestling, or playing with the foils, everyone according to his degree and estate. But when the air is pestilential from heat these exercises are to be avoided.

Also must one eat at such times foods that are warm and fat in their

substance such as cabbages, beans and carrots, and mutton, and chicken and other similar foods. Also, must one partake in such times of hot sauces such as of garlic, of pepper, of mustard, of crawfish. And those who can afford it may use wines, naturally hot as those of Greece or Bernascon and also others artificially hot such as "pimento" (spiced wine).

The great Lords can use a pimento made of the following spices: R. cinamomi alitimi one ounce, two drachms electi and one half ounce mundi. granorum paradisi, florum cinamomi, cubebarum domesticarum ana one drachm, gariof. macis galang, ana two drag, nucis mus. unam grossam panis zuccari, et optimi vini et odoriferi utriusque quantum sufficit, fiat nectar vel pigmentum.

One may take this spiced wine at the end of the meal with toasted bread or cereal.

However, it is necessary that in all these prescriptions of a heating and cooling regimen one should observe with diligence, due rule and measure. If often happens that in great heat people suffer grave maladies of cold because of the abuse of cold things. And in time of great cold they suffer grave maladies of heat because they abuse hot things.

Article V. Part 2. Regimen to observe against air pestilential in its substance.

Article V. Part 2. Chap. i. Rectification of air, putrid and corrupt in its substance.

If air is pestilential because of putrefaction and corruption of its substance, one must consider whether its corruption or putrefaction was sent for our deserts in chastisement for our sins, or whether it came through the infection of the earth, or of the water, or of allied things, or whether it came from higher or superior causes such as the influence of conjunctions or appositions of planets. Because if the corruption and putrefaction of the air has come because of our sins the remedies of the medical art are of little value, for only He who binds can unbind. And to confirm this a sentence of the Holy Scripture can be quoted, one we have already alluded to above in the second article written in Deuteronomii chap. XXVIII,: Percutiat te dominus ulcere egipti, et partem corporis per quam stercora egeruntur scabie quoque et prurrigine, ita ut curari nequeas. Thus, it is vulgarly said that when God wisheth not, Saints cannot. For there is none who can oppose the might and power of God. The supreme remedy in such a case is to acknowledge our sins and our failings by

hearty repentance and oral confession by works and acts and thus is given satisfaction to God by a true penance, and after this he takes from, and gives to, each what he deserves. This regimen recalls Kings III, chap. 8 where it says: ffames si aborta fuerit in terra aut pestilentia, aut corruptus aer, aut erugo, locusta aut rubigo, et afflixerit eum et inimicus eius portas obsidens, omnis plaga universa infirmitas, cuncta deuoratio et imprecatio que acciderit omni homini de populo tuo israel Si quis cognoverit plagam cordis sui habendo veram contritionem. Et expanderit manus suas in domo hac Hoc est habendo recursum ad sacrosanctam Romanam ecclesiam, et ad eius vicarios, humiliter petendo veniam de obmissis. Tu exaudies in celo in loco habitationis tue et repropiciaberis et facies ut des unicuique secundum omnes vias suas, sicut videris cor ejus quia tu nosti solus cor omnium filiorum hominum, ut timeant te cunctis diebus quibus vivunt super faciem terre, quam dedisti patribus nostris.

But if the putrefaction of the air came from the earth or from the water, in such case one must choose for one's habitat high places and mountains. But if the putrefaction came through the influence of some conjunction or appositions of the planets, in such case one must choose low places and underground rooms to live in, and also in such cases one must keep windows and embrasures tightly shut.

And one should make fires in the room of good fire wood, such as rosemary and myrtle, or of cypress which one finds in great abundance, or of juniper or arabic "desticados" or of lavender vulgarily called "espigol."

The great Lords can use fumigations such as the following: R. ligni aloes, ambre grisie ana ii drag. mirre obtime et electe olivani puri ana I uncia, canifore storacis calamite ana semi uncia. rosarum rubarum siccarum. ii. drag. sandali macassarini, foliorum mirti ana semi uncia. pulverizentur omnia grosso modo, et incorporentur cum laudano puro, vel cum aqua rosacea de domas, in which is dissolved the camphor above mentioned and from which are made pellets of which one or two are put into the brazier or as many as required.

Also one can prepare for the great Lords fumigations of a most precious confection which is called Gallia muscata, or of another one called "black confection."

But the common folk may use the following regimen. They can make fire in their huts and in their chambers of rosemary and juniper, and make fumigations of incense and myrrh or of other things cheaply to be had such as "cimiama" or "herb of thur." And I will say that the fire alone can effectively rectify air putrid in its substance. I advise that such a

regimen be continued as one of the most important and necessary. And again it must be said that it is most beneficial to sprinkle the floor of the room with rosewater and vinegar.

Article V. Part 2. Chap. ii. Regimen of exercise.

In such times one must avoid violent exercise because such exercise causes much air which is foul and poisoned to be drawn to the heart. The heart is corrupted and also the blood and its spirits, by air that has the effects spoken of in the fourth article.

Article V. Part 2. Chap. iii. On foods and remedies which preserve the body against pestilential maladies.

The regimen of foods and medicines which are to preserve the body from pestilential maladies must be the following: Man should eat and drink as little as possible. Especially, drinking must be temperate and it is advisable that he control his thirst. Also one should use in all foods much vinegar, sorrel, juice of oranges and of lemons and other acid things which are most beneficial. Clear fresh wine is better than sweet wine, because wine that contains sweetness putrifies more easily and has great tendency to turn into bile. Also one must avoid in such times birds that feed near stagnant waters, such as water hens, and geese, and ducks and other animals that have naturally humid flesh, such as suckling pigs and lambs. Also, in such times slimy fishes such as lampreys and eels and rapacious fishes, such as dolphin, shark, tunny-fish and similar fishes should be forbidden. Especially to be avoided, aside from the above mentioned fishes, are any others when they are rotten and smelling badly. And if perchance one is obliged to partake of them one should choose whatever is best in the region, such as salmon, sturgeon, mullets, flounder and haddock and similar fishes, and they should be preserved in vinegar or salt. Fish fried or grilled over the coals is best in such times.

Of fruits in such times, those are better that are rather acid, such as red berries, acid pomegranates and " taperes en sols."

Having pointed out what foods are beneficial, and which are objectionable in such times, we must now mention the medicines which preserve our body from pestilential maladies. One should take three times a week in the morning one drachm or 3 diners (the weight of 3 coins) of fine theriac. It is said to be very beneficial, especially if the body is purged in the manner which we will mention in the following chapter.

There is also a very marvelous and supremely recommended confection,

praised by Avicenna and by Rhazes in the fourth book to Almansor, a medicine of which it is said that a man who takes it in quantity of one drachm every morning with one ounce of well watered wine, is not going to die that year of pestilential air. This confection is made of:

R. aloes cicotri one part
myrrha and saffron one half part each,

and one who would like to have it made up by the herbalist can give the following prescription:

Recipe. aloe cicotrini. i. uncia
mirre obtime et electe
croci orientalis, ana. ½ uncia
pulvericentur omnia et conficiantur cum aqua rosacea et fiant pillule vel trocisci.

There is also a very marvelous confection, when made correctly and faithfully, which is called Metridatum, and has such power according to some of the most renowned authors of medicine, that one who uses of it every morning in the quantity of a broad bean, no poison or venom can hurt him. The King of Pontus who was called Mithridates from whom the above medicine takes its name, according to a report had taken the above said quantity every morning for one year, when he was besieged in a town of his kingdom by Pompey, King of the Romans, and desired rather to kill himself than fall into the hands of his enemies; but he could not do it with any poison and had to slay himself with a knife.

Also it is beneficial to eat in such times on an empty stomach a herb called Scabiosa. And if of this herb an infusion is made by distillation on a slow fire, just as one makes rosewater, such infusion can be used by delicate persons.

It must be said also that the drinking of the juice of an herb called Capud Monachi, is of great benefit and efficacy as an antidote against any venomous matter which may attack the heart. Therefore, when drunk, it serves as a superior remedy against anthrax "mala bufaynna" or bad buboes. Against this same malady which occurs in times of pestilence it is of tested value to place, as some do, on the bubo a patch of virgin wax which is made according to the figure in the margin.[2] Besides, it is recommended that in all these cases the body be purged either by clysters or by other evacuations, and that the sick member be touched with fire or with cautery with the counsel of an approved physician.

[2] No figure appears in the margin of this ms.

Also there is another remedy in the beverage made from a herb called bruneta. Placed freshly cut on the swelling it is of much benefit.

It must be said that after the cauterization mentioned above it would be very profitable to apply cupping so as to draw out the poisonous matter. And some pluck the rump of a cock or a hen and hold it on the swelling to draw out the poisonous matter. And these remedies may suffice for the present.

Article V. Part 2. Chap. iv. The regimen of sleep.

After feeding naturally follows sleeping. I say that for sleeping there should be selected a room according to the principles discussed in the regimen of air.

Article V. Part 2. Chap. v. Regimen of our bodies as regards purgation and bleeding.

Since few are those that in eating and drinking do not go to excess, for this reason I advise that the body be purged with a light purge i. e. not too strong to be dangerous. And since one must not take a purge without first having taken a sirup, I want to mention first a sirup which is suitable for the great Lords

R. endivie novelle, rostri porcini, e partite
scolopendrie recentis
capilli veneris recentis, ana manipulum unum
buglosse cum toto, foliorum borraginis ana
manipulos duos,
seminis melonum, cucurbite ana ½ uncia
seminis acetose, sandali macassarini ana 1 drag.
sandali auri et rubei 1 drag.
florum molarum, borraginis et buglosse ana ½ unc.
florum nenufaris 1 uncia
camfore in ligatum 1 drag.
aceti albi 2 uncias
aque scabiose extracte per distillationem 3 uncias
panis zucare 14 uncias
fiat sirupus diligenter clarificato et perfecte
cocto.

Of this sirup one can take morning and evening, the quantity of two spoonfuls with 15 parts of boiled water, tepid. It is further advisable that on the evenings when the sirup is to be taken the supper be light.

But the common people could use the following sirup:

R. sirupi endiuie, sir. violacei, sir. de capilli
veneris ana 3 uncias
ocxiacre simplicis, vel sir—acetosi ½ librum
misceantur.

After the syrup has been used take such a purge or tisane as is appropriate to purge the chyle and the phlegm:

R. prunorum demascenorum, numero 12
anisii, marati, 2 drag.
Seminis melonum ½ uncia
curbit, vene gumosi et ponderosi intimus
et exterius mundati vel loco ejus
agaricii non antiquati 2 drag.
zinziberis albi et mundati 1 drag.
uvarum passarum mundatarum 1 uncia.
florum borraginia et buglosse, manne electe
ana ½ uncia
fiat decoctio in qua dissolvatur
cassiefistule mundate ½ uncia (for the delicate ones
or 1 uncia for the others).

Then add

reubarberi electi 1 to 3 scruples or one
drachm, more or less according to the
condition of the person.

However, since many factors will influence the work of the physician I advise that in this regimen a good and approved physician be consulted. Because a purge cannot be good at all times nor for everybody, just as one shoe can fit but few.

The desired evacuation having taken place, one can shortly after bleed the median vein or some other in order to withdraw blood, 3 or 4 ounces, more or less according to the condition of the person or according to major or minor necessity.

And if one asks me in which quarter of the moon it is best to let blood, I say in the third quarter. And also I say that it is better to do it in the middle of this third quarter, provided that the moon in such times is not seen in a sign unfavorable for bloodletting, such as Gemini, Leo, Virgo, Capricorn and some others.

And in this regimen it is also important that man abstain from carnal intercourse with woman. To go to excess in these matters is at all times of great danger to our body. But, especially in such times, it does signally and notably great harm and damage.

And also I say that in such times habitual bathing is also very dangerous, because the bath opens the pores of the body and through these pores corrupt air enters and has a powerful influence upon our body and on our humors.

Article V. Part 2. Chap. vi. Influences on the soul: anger, joy, fear, sadness, anxiety.

I declare that in such times gaiety and joyousness are most profitable, unless joyousness is combined with a bad regimen either of food or of dissipation or other things.

But among other influences that must be avoided in such times are especially those of fear and imagination. For from imagination alone, can come any malady. So one will find that some people get into a consumptive state solely by imagination. This influence is of such great force that it will change the form and figure of the infant in the mother's womb.

And to prove the great efficacy and the great power of imagination over our body and our lives one can quote in proof first the Holy Scripture where we read in Genesis chap. 30 that the sheep and goats that Jacob kept, by imagination and by looking at the boughs which were of divers colors put before them by Jacob when they conceived, gave birth to lambs and kids of divers colors and speckled white and black.

Another proof of this proposition can be made by the following experiment: When somebody stands on a level board on the flat floor he can go from one end to the other with nothing to hold on to, so as not to fall off, but when this same board is placed in a high and perilous position, no one would dare to try to pass over the said board. Evidently the difference is due wholly to the imagination. In the first case there is no fear, and in the other there is. Thus, it is evidently very dangerous and perilous in times of pestilence to imagine death and to have fear. No one, therefore, should give up hope or despair, because such fear only does great damage and no good whatsoever.

For this reason also it is to be recommended that in such times no chimes and bells should toll in case of death because the sick are subject to evil imaginings when they hear the death bells.

There is still another very good and profitable means of prevention in the removal and avoidance of all those causes that can produce pestilence and epidemic disease. Of course there are some causes that are not in our power to combat such as conjunctions and appositions of planets and

their influence, or such as winds and other factors. But if there are causes that one can combat, these must be eradicated and removed and the pestilence which is expected to be produced by them will be stopped. For this one is referred to the second principal article, and everyone must reflect on and prevent the causes that can produce a universal or local pestilence. And if perchance these can be removed, they must be removed. And to this end an effort should be made by the Lords and their officers whose duty it is to look after the usefulness and well-being of the community,—to which should be subjected all other good and profit of a private nature.

And since in such times maladies and deaths can come from various causes, since it happens that some die from worms and others from abscesses which invade the heart, and others from other causes, it is advisable that in such times, of those that die suddenly, some should be autopsied and examined diligently by the physicians, so that thousands, and more than thousands could benefit by preventive measures against those things which produce the maladies and deaths discussed.

Article V. Part 2. Chap. vii. Special preservation against worms.

And since we have said that in times of pestilence fevers and sudden deaths may occur because of worms and " lombrichs " we will now state the regimen of preservation against them. It is said that in such a case it is very beneficial to eat garlic in the morning and drink in the evening when one goes to bed, 2 to 3 mouthfuls of vinegar. Also the stomach and the bowels must be purged with pills of Gerapigra Galeni or with clysters. This practice is very beneficial in preventing worms and lumbrics from generating in those parts. Since worms usually generate in phlegm, by expelling the latter, the former cannot be generated. Also one must avoid eating foods in which worms easily grow such as cherries and generally all sweet fruits and vegetables when they are fresh and not dry, such as tender broad beans, and similar things, and cabbages, and turnips and spinach; and generally all slimy and viscous foods. Also, one may habitually take every morning the seeds of a herb called centaurea, also called seeds of Alexandria, mixed with honey. Or one can make powders of corn de cervo and aloe cicotrin, of which one takes one drachm with honey. Or one partakes of a herb called enula campana a quantity of half an ounce, a remedy which Avicenna says is marvellous. Or one can make powders from what is called granum nil, also called carcamus, or the seed or powder of false saffron; one takes it in the morning with

milk or honey and of this remedy Avicenna says that it kills the serpents in our body and throws them out.

I may say also that a powder made from a root called Diptanus, vulgarily called " Herb of tunis," taken with honey serves very well here. Or if powders of bitter lupins are chosen, it is most appropriate to drink juice of the leaves of the peach tree. Also the great theriac has worm-killing properties. And the gerapigra of Galen has vermifuge properties and throws them out of the body. One must know that some take things that kill the worms and when they are dead they remain in the body, decay and turn into venom from which arises great damage. It is therefore wise to mix with these things that kill them some laxative such as senna or curbit or some others.

But for the feeble can be made such a syrup:

R. fol. absintii presicarie enule campane hisopi,
centauree, endivie, rute ana 1 scrup
germandree genciane prassii ana ½ scrup.
cartami lupinorum amarorum ana ½ uncia.
cornu cervi, aloe cicotrini ana 2 drag.
seminis centauree, seminis porri ana 2 dragm.
medulle vel nuclei presicorum 1 unc.
coriandi preparati in aceto passulato ½ uncia.
folliculorum sene 1 ½ unc.
curbit electi interius et exterius mundati 2 dragm.
pulpe coloquintide ½ unc.
anisi marati zinziberis albi et mundati ana 2 dragm.
liquiricie mundate 1 unc.
aceti albi 3 unc.
panis zucare 5 quartos
fiat sirupus diligenter coctus et clarificatus.

From this, take every morning in the manner already explained above.

Also the following plaster may be made:

R. foliorum absinti, fol. mente, fol. porrorum ana
contundantur et in oleo et aceto concantur vel
prixentur, et fiat emplaustrum.

This plaster is placed on the belly over the navel. And if one adds to this plaster pulpa coloquintide finely pulverized or aloe cicotri finely pulverized or powders of bitter lupins, such a plaster will be more powerful.

Also one might make the following ointment:

R. pulpe coloquintide 2 dragms, nigelle, aloe cicotrini, cornu cervi combusti, seminis alexandrie ana ½ uncia, fellis bovini 2 uncia, mellis quod

sufficit pulverizanda pulverizentur et subtiliter cribellentur et incorporentur omia. et fiat unguentum. With this one anoints the whole belly.

And for the common people the following ointment will serve.

R. pulpe coloquintide ½ unc. pulverizetur subtiliter et incorporetur cum felle taurino.

Feeble children may be anointed with the following ointment:

R. Olei Absintii, olei de medulla vel nucleis presiccorum seminis alexandrie, cornu cervi adusti ana 2 dragm., cere nove quod sufficit fiat unguentum mediocriter liquidum.

Article VI.

In this article the principle of pestilence is conceived as applicable in a moral, as well as a physical sense, and it has only one chapter in which the definition of pestilence is developed in this sense.

The clear proof that the concept of pestilence applies in the moral sphere is given in divers passages of the New Testament; which describe the sower of good seed in Matthew xiii; the good seed that fell on good soil in Luke viii; the treasure and the drawnet cast into the sea, and the pearl in Matthew xiii; the lost sheep in Matthew xviii and Luke xv; the piece of silver and the prodigal son in Luke xv; the wicked servant in Matthew xviii; the rich man who filled his barns in Luke xii; the hire in the vineyard for one penny in Matthew xx; the publican and the Pharisee in Luke xviii; the son who said he was going to the vineyard and did not go in Matthew xii; the vineyard in which there was a cellar, in Matthew xxi and Luke xx; the ten virgins in Matthew xxv; the ten lamps in Matthew xxv. Our Lord Jesus Christ used parables, obscure sayings, that morally understood, are useful and profitable for our instruction. And in a similar lofty manner Solomon taught in one of his books called the "parables of Solomon."

For those with clear and subtle understanding, all that has been said about pestilence in its natural sense, will apply equally clearly and truly to the moral pestilence. And that this be true I can demonstrate by a general definition and examples of its application. Those who have understanding higher and more subtle than mine can equally apply to this proposition the other articles and chapters of our discussion of natural pestilence. Although it happens that my understanding is not sufficient for this, I am certain that it can be done. I say, therefore, that, morally speaking, the definition of moral pestilence is as follows:

Moral pestilence is a contra-natural change in the spirit and in the thoughts of men, from which come enmities, rancors, wars and robberies, destruction of places and deaths in certain definite regions beyond what is customary to the people living there.

I say in the first place that pestilence, morally speaking, is a *contra-natural change in spirit and thought*. Because as natural pestilence produces contra-natural change, and infection in the blood of the heart, and in the strength of the heart, moral pestilence similarly causes a contra-natural change in the spirit and the thought of the people.

I say next *from which come enmities*, because from the contra-natural thoughts above mentioned, one dishonors and damages the other, while a good heart, and good will and good thoughts procure or help to procure to ones fellowmen all good and all honor. On the contrary bad spirit and thoughts which are contra-natural produce contrary results. And as the common people say there is no smoke without fire and from contra-natural changes arises enmities among people.

I say also *and rancors*, since rancor does not mean only vile hatred but rancor may be interpreted as ran(cunia)cor.

I say afterwards *wars*, because properly speaking war is enmity and rancor of men of parts and other great lords; when among them such troubles arise, of necessity enmity must occur, and rancors and wars between them.

I say also *and deaths*. Because, in the natural order of things, the cause being established, the result will necessarily follow, and thus wrath, rancor and war is sufficient cause and reason for deaths.

I say also *and robberies*. Because warring people think that they have a right to the properties of others and so they apprehend them. And since for war young people usually are chosen they naturally do not use much discretion. Therefore, if the chance is propitious, those that are not already enemies may become such, which means that they are robbers and despoilers.

I say also *and destruction of places*. These take place in the wars of the great lords, each one tries to destroy as much as he can, towns and castles of the other, tearing down the one and levelling the other.

I say afterwards *in certain definite regions*. For such pestilence sometimes is in France, sometimes in Lombardy, sometimes in Spain, sometimes in other regions. And if such a pestilence becomes universal everywhere, I say that such would be a great sign of the advent of the son of abomination, that is the Antichrist. And hereof speaks Saint Mark, chapter xiii in the person of Jesus Christ. Cum audieritis autem bella, et

oppiniones bellorum, ne timueritis. Opportet enim fieri scilicet nondum est finis. Exsurget enim gens contra gentem et regnum super regnum, et erunt terre motus super loca et fames initium dolorum hec.

I say also *beyond what is customary to the people living there.* Because if in a region it was a customary thing to have enmities and wars, destruction of places, robberies, killing of the inhabitants, I say that there cannot be in such places pestilence as here understood. But when in some region newly arises contra-natural change, and beyond custom, of spirit and of thought, of enmities and of wars, among its inhabitants where as to all the things just mentioned, the contrary was customary, I say that this is pestilence very perilous, very bad and very strange.

Moral pestilence, in all and for all, has causes, is announced by signs, as regards to its coming and to its being already present, and would respond to a regimen of prevention, as does the natural pestilence of which, in this tractate we have made mention. But since the understanding of one person is not sufficient to make the application (by applying the same principles to moral pestilence and thus finding its cause, signs and prevention) I shall say no more for the present; but will make an end of my tractate. Let us pray and supplicate our Lord God Jesus Christ, who has preserved us from the pestilence, naturally or morally understood. until this day, that it may please Him still to preserve us, and all the other cities and places of the kingdom in times to come, and that we may so live that we finally become worthy of His kingdom, and of participating in His holy glory. Amen.

Finished was this tractate in the year of the Lord Jesus Christ 1348 in the vigils of Saint Mark (April 24), by Master James of Agramont, Master in arts and medicine in the last [3] year of his lectureship.

[3] This word is indistinct in the original manuscript. It may be "last" or "third." The actual text of the colophon is as follows: ffo acabat aquest tractat en lan de nostre seynnor ihesu xrist. M. CCC. XL-VIII. en la vigilia de sent March, per Maestre Jacme dagramont Maestre en arts e medicine en lo derrer (? tercer) an de la sua lectura.

THE LIBRARY OF THE MADRAS MEDICAL COLLEGE

D. V. S. REDDY

I. History

The Madras Medical School was started in 1835. When the first building for the school was planned and built in 1836, there was provision for a lecture theatre, a laboratory, a museum and also a *library*. It can, therefore, be stated that the library is as old as the school, if not older. The books that constituted the nucleus of the library in 1836 must have come from various sources—some from the Hospital or private collections of physicians and others from government departments or by purchase.

It is an interesting question whether the medical books of the 17th and 18th centuries, belonging to the Company's Hospital in the Fort or in the Library of the Fort St. George, Madras, have been pooled into the Medical School Library.

The nucleus of the students' library was opened during the year 1847, when the five years course was opened.

In 1863-64, the Government authorised the Principal to obtain from London book-sellers an annual supply of books for the library and prizes and placed a sum of money at his disposal for this purpose.

Next year, Dr. Montgomery, Professor of Materia Medica, presented to the library no less than 187 volumes comprising some valuable works on materia medica and botany.

In 1867, the number of books in the Library were as follows:

General Library	2,696
Students' Library	384

In 1868, the books of the general library were transferred from the library room, to the new almirahs which were arranged against the walls of the remodelled and extended lecture theatre.

The original medical school buildings consisted of four apartments, viz., theatre or lecture-room, a library, a museum and a laboratory. " The Theatre was octagonal, thirty-two feet in diameter and surmounted by a dome, the centre of which within was thirty-six feet in height. Where the dome rose from the level of the top of the other parts of the building, it was perforated by eight oval ventilators."

The library and museum, one on the north, the other on the south side of the theatre, were each twenty-eight feet long and sixteen broad.

As the college progressed, it became necessary to enlarge the buildings. As a result of structural alterations carried out by 1867, the old octagonal theatre was considerably extended and made more spacious to accommodate large gatherings at the time of the anniversary. Glass almirahs were fitted into the wall of the hall which, therefore, became the library as well as the assembly hall. Most of the older collections are still in these shelves in the same hall, though the latest additions and frequently used text books etc. are now accommodated in a separate library room on the second floor of the pathology block.

In 1871, the Madras Medical Society handed over to the College, en masse, its valuable collection of scientific books, together with a sum of Rs. 1,500/— and the annual interest accruing on it was to be spent on the upkeep of the library. "This munificent donation was made with the only proviso that the books of the College library should thereafter be available to the subscribers of the then but recently defunct Medical Society." In 1872, there were 4572 books.

In 1885, the year of the Golden Jubilee of the College, the number of volumes in the library of reference were 6937, including the number supplied by the government that year. A little more than 2000 of these constituted the students' library.

The then librarian, Mr. Murserwanjee Cursetjee, prepared "a very useful catalogue of all the works in the professors' as well as in the students' library and has numbered each work." One would like to examine the catalogue, which is bound to be interesting and instructive.

II. The Historical and the Bibliographical Importance of the Collection.

1. It has some of the older and rarer works on medicine and other allied sciences published in Europe before 1835. (e. g. Hunter's books, Morgagni's treatise and Haller's monographs).

2. It has a few books on medicine and allied topics written by Indo-British medical pioneers (e. g. Text Books, Guide Books, and Memoirs, etc.).

3. It contains some classics on the diseases of India or tropical diseases and some books containing sections on the health and medical conditions of India, in the 19th century.

4. It has a valuable collection of works on Indian botany including a section on medicinal plants of India.

5. It has a number of books of general and cultural interest, showing the wide interests of the early teachers and medical officers of Madras (Dictionaries, Histories).

6. The lists of books in different subjects give one a rough idea of the European authorities who were the teachers or the inspiration of the physicians and surgeons of Madras and the content and method of teaching pursued in the various decades of the 19th century.

7. The same lists also provide an index of the clinical conditions and trends of teaching, that interested the medical officers of various generations.

8. The salvaged collection will form a very inspiring and encouraging nucleus for a Medico-Historical Library and Museum, invaluable for the postgraduate, the research worker, the administrator and the medical historian.

III. A Note on Old Medical Books in the Library.

It is impossible to state definitely the names and date of publication of all the books that were in the library sometime or another. Cursetjee's catalogue, prepared in 1885, may help to some extent but is not available yet. Additions to the library after 1885 are not altogether intact on account of the usual practice of auctioning away older or damaged or early editions, frequently, either to provide room for the newly arrived books or to remove unused books from the shelves. In these auctions, year after year, some of the books of medico-historical value might have been lost to the library. I know that at one of these auctions the English translation of Shushruta by K. L. Bishagratna was sold for a few annas. And the book is not now available for reference or reading in the college library. Another practice has added to the confusion regarding the existence or loss of old books. At a certain stage all the older books not actually used by staff or students appear to have been taken out of the shelves and piled up in some nooks and corners, without any order, classification or arrangements. No lists of these piles of books have been kept. The catalogue printed some 20 years ago includes books which are not traceable.

However, a preliminary examination of the older and discarded books in the Medical College Library has revealed the existence of the remnants of a collection of books nearly a century old, presented to the college library

by the now defunct Madras Medical Society. Some of the books appear to have come from the shelves of the Medical Board, Madras, the supreme authority on medical administration in the early part of the last century. A few books have been presented by the Surgeons-General.

Two groups of books deserve special notice.

(1) Books and reports on tropical medicine or diseases, by the medical officers who have served in India and who preserved their observations in permanent records, are of great interest, not only to the antiquarian and the archivist but are mines of valuable clinical and scientific data and observations, useful and inspiring to the clinicians and research workers. It is a matter of gratification to every medical man or woman in South India to see and handle the large volumes, some of them beautifully illustrated, written by the physicians and surgeons of the Madras Establishment and of the General Hospital. All these books are in varying stages of decay and require to be carefully cleaned and preserved in a separate place. They have to be catalogued very carefully as some of them have no title pages and some are in old script. A descriptive catalogue, including the size, the number of pages, the photostat copy of the title page and a list of the contents, of the works on tropical or Indian diseases, with short notes on the life and work of the authors and the special significance or features of their contributions, should be available to every worker on tropical medicine. It may be that at a later date some of these books may be reprinted in a handy form for the libraries of other continents.

(2) The second group of books which comprise the " medical classics " of all time, the works of the master minds in medicine, have their literary and cultural value. Among books identified up to now are fragments of some classics.

Latin text of Celsus.
Latin text of Rhazes.
English translations of the Hippocratic works.
English translation of a book by A. Haller,
English translation of Van Swieten's commentaries on the *Aphorisms* of H. Boerhaave.
Works of Thomas Sydenham, of the Bell Brothers, etc.
A large number of works published in England and France more than a hundred years ago.
Surgical and medical classics, such as Claude Bernard's treatises, Virchow's manual, etc.
A number of journals of the last century.
A number of classics and famous books in zoology and botany, and books on history, archaeology and folk-lore.

The second group of books, i. e. medical classics, may be kept in show cases where anybody can see them and get an idea of the language and the content and the outlook of the different centuries and decades in chronological order, leading up to the present efflorescence of medical science.

* * *

It is hoped that, with the revival of interest in medical history and cultural aspects of medicine, foreshadowed in the recommendations of the Bhore Committee, the library and its old collection will attract increasing interest, both from medical men in India and medical historians and medical history organisations abroad. A qualified medical librarian and trained library assistants, classification and arrangement of books on the lines suggested by the American Medical Library Assocation, are the immediate needs. A complete catalogue of the old collection, a descriptive catalogue of the Indo-British classics, fresh and cheaper editions of some of these classics should be the final objective. These cannot be achieved without the help of medical historians and charitable endowments to finance these undertakings and ventures for the promotion of the history of medicine.

JOSIAH CHARLES TRENT

1914–1948

JOSIAH CHARLES TRENT

(Born in Okmulgee, Okla., August 7, 1914; died in Durham, N. C., December 10, 1948.)

There must be a corner in Paradise where foregather congenial souls who had a rendezvous with death ere life had well begun. They had burst into the life of the world like a meteor with dazzling effulgence only to vanish into space, leaving us gazing into the heavens with admiration and wonderment. There would meet together Bichat, James Jackson, Jr., Bruce MacCallum, Alan Seeger and others who have had but a foretaste of the sweetness of life and yet in a few short years have left the world deeply indebted for their contribution to mankind. Joe Trent was such a young man whom we can well imagine as nucleus of discussion groups in that charmed circle with St. Luke as a participant.

Probably he derived his interest in medicine from his Virginian ancestors. His great-great-grandfather was Dr. William Simpson, with Andrew Jackson's army in 1812. The family records of the period have been burned, including those of the Simpson ancestor who was physician to Queen Victoria.

After graduating from Duke University at the age of 19, he entered the University of Pennsylvania and received his medical degree in 1938. A medical internship at Ford Hospital in Detroit was followed by a six year surgical residence at Duke Hospital. In order to complete special training as a chest surgeon he spent an additional year with Dr. John Alexander at the University of Michigan. This brought him the appointment of Assistant Professor of Surgery in charge of thoracic surgery at Duke University.

Memberships in professional organizations are an index of the scope of a man's interest and his willingness and capacity to participate in their various activities. By this yardstick Trent had reached full stature as a surgeon with a flair toward the humanities. A diplomate of the National Board of Medical Examiners, he was a founder member of the American Board of Thoracic Surgery. Other surgical memberships included that in the American Board of Surgery, American Association for Thoracic Surgery, Society of University Surgeons, and Fellow of the American College of Surgeons. Because of his work in chest surgery he maintained membership in the National Tuberculosis Association and the National Trudeau Society. In medical organization he was Secretary-Treasurer of the Durham-Orange County Medical Society and the Sixth District Medical Society. He was an active trustee in the Lincoln Hospital for Negroes of Durham, N. C.

Trent had a strong aesthetic bent harking back to special training in English and history in undergraduate days. The love of books and libraries, delving into medical history, ability to write about it, and joy in collecting objects bearing on these interests were all a part of a finer nature. He became a member of the Executive Committee of the Friends of Duke University Library, Chairman of Duke University Medical Library Committee, and Honorary Consultant of the Army Medical Library. Editorial appointments were membership on the boards of the North

Carolina Medical Journal and the Journal of the History of Medicine and Allied Sciences. The American Association of the History of Medicine, the Charaka Club and the Grolier Club esteemed him as a valued member.

The bibliography of his work is indeed impressive; the publication of 50 articles in seven years is a record of which any man would be proud. Many of these were short sketches of personages or events in the history of medicine and appeared as a series in the North Carolina Medical Journal. Longer articles in other journals represented exhaustive studies of a trained historian. In the September-October issue of the BULLETIN for 1948 appeared one of his last papers, delivered in Philadelphia last May. A list of his published papers is presented at the end of this sketch.

A short note on Trent's illness will throw light on his activity. In 1941, he was operated upon for an abdominal mass which proved to be an abdominal lymphosarcoma. This was controlled until 1946, when a decompression was made for an intracranial metastasis. Deep x-ray therapy held this in check until November 1948, when the disease became widely disseminated. The end came shortly after this extension.

With a knowledge of his condition facing him, his friends continued to marvel how he was able to complete so many undertakings. I was amazed at what he accomplished through courage and persistent effort during the past year. In spite of recurrences, he delivered a paper at the Annual Meeting of the American Association of the History of Medicine at Philadelphia last May. Another paper was read before the Grolier Club that same month. He arranged the program for the Session of the History of Medicine at the meeting of the American Medical Association at Chicago in June. The program was an unusual concept which he had worked out. The participants were men who had made history in medicine during this generation. Each of these men described his own special contribution to medical progress. Dr. Trent took part in the discussion of the papers. This was all carried out while he was attending to his duties at the hospital, serving on various committees and working on several writing assignments. As I watched him delivering his paper, standing erect, with the extensive cranial depression distinctly evident, I could only wonder whence came the courage that supported him. It would seem that he had resolved to crowd in all that was possible in the short span allotted to him. His reward was the conviction that he was giving to life all the energy he possessed and was taking little from life in return.

Fortitude and optimism remained with him to the end. Two days after leaving the hospital he drove to White Sulphur Springs for a meeting of the Southern Surgical Society, and there he sufferd another attack. Yet he drove home, and in less than twenty-four hours his work was cut short.

While living in Detroit Trent contracted the collecting fever through contact with Henry Schuman, book antiquarian in the history of medicine and science, and in this he was aided and abetted by his sympathetic wife. Special fields which attracted him were books by Whitman, history of anesthesia and yellow fever, and manuscripts on Benjamin Rush, Benjamin Waterhouse and S. Weir Mitchell. The Whitman collection was presented by the Trents to the Duke University Library in 1945 in honor of their four small daughters, Mary Duke, Sarah Elizabeth, Rebecca

Gray, and Barbara Biddle Trent. He also collected medical portraits, early instruments, and pharmacy jars. He was particularly proud of a group of 15 ivory manikins of rare beauty. Trent's private library contains many incunabula and rare books and numbers about 4,000 volumes and 2,000 manuscripts.

Beside his devoted wife, Mary Duke Biddle Trent, and their four daughters, Trent leaves behind to mourn his loss his mother, a brother and two sisters. To the family, readers of the BULLETIN would express sincere sympathy.

There is so much to admire about Trent. He was a well prepared thoracic surgeon who early caught the concept that besides making a living we must also live a life. The quiet modesty, the dogged determination, and the unfaltering courage cannot be forgotten. His willingness to accept assignments and ability to carry them through were in keeping with his belief that "physicians should assume that leadership in cultural pursuits which is their heritage." His enthusiasm for the finer things in medicine stimulated all who came in contact with him.

Trent had strong religious faith and convictions which developed from the childhood teaching of his mother. He felt that science did not answer all of life's problems and that the planned patterns of the universe were proof of God's design.

Such a man was Joe Trent and so full was the life he lived. He will gravitate to the young man's corner in Paradise. John McCrae will be there with waiting hand for one who grasped the torch and held it high.

HOWARD DITTRICK

BIBLIOGRAPHY OF DR. JOSIAH C. TRENT

1. Intravenous Amino-acid Administration in Surgical Patients Using an Enzymatic Casein Digest. Clarence E. Gardner, Jr., and Josiah C. Trent. *Surg., Gynec., and Obstet.*, 75: 657-660 (Nov.) 1942.
2. "De Humani Corporis Fabrica," (1543-1943). *North Carolina Medical Journal*, Vol. 4 (Dec.) 1943.
3. Five Letters of Marcus Aurelius Severinus to "the Very Honourable English Physician John Houghton." *Bulletin of the History of Medicine*, 15: 306-323, No. 3 (March) 1944.
4. An Early New Jersey Medical License. *Bulletin of the History of Medicine*, 15: 508-511, No. 5 (May) 1944.
5. Thumbnail Sketches of Eminent Physicians: Hippocrates (460-370 B. C.). *North Carolina Medical Journal*, Vol. 5 (Jan.) 1944.
6. Thumbnail Sketches of Eminent Physicians: Galen (131-201 A. D.). *North Carolina Medical Journal*, Vol. 5 (Feb.) 1944.
7. Thumbnail Sketches of Eminent Physicians: John Hunter (1728-1793) Founder of Experimental Surgery. *North Carolina Medical Journal*, Vol. 5 (June) 1944.
8. Thumbnail Sketches of Eminent Physicians: Benjamin Waterhouse (1754-1846) and the Introduction of Vaccination into American. *North Carolina Medical Journal*, Vol. 5 (Aug.) 1944.
9. Thumbnail Sketches of Eminent Physicians: Surgical Anesthesia—An American Discovery. *North Carolina Medical Journal*, Vol. 5 (Nov.) 1944.

10. Anesthetic Deaths in 54,128 Consecutive Cases. Josiah C. Trent and Ellen Gaster, R. N. *Annals of Surgery*, 119: 954-958 (June) 1944.
11. Thumbnail Sketches of Eminent Physicians: The Evolution of the Aseptic Principle of Surgery. *North Carolina Medical Journal*, Vol. 6 (Jan.) 1945.
12. Thumbnail Sketches of Eminent Physicians: The Evolution of the Aseptic Principle in Surgery. II. Antony Van Leeuwenhoek (1632-1723), "Father of Bacteriology." *North Carolina Medical Journal*, Vol. 6 (Feb.) 1945.
13. Thumbnail Sketches of Eminent Physicians: The Evolution of the Aseptic Principle in Surgery. III. Francesco Redi (1626-1697) and the Theory of Spontaneous Generation. *North Carolina Medical Journal*, Vol. 6 (March) 1945.
14. Thumbnail Sketches of Eminent Physicians: The Evolution of the Aseptic Principle in Surgery. IV. Sir John Pringle (1707-1782) "Pioneer in Antiseptics." *North Carolina Medical Journal*, Vol. 6 (April) 1945.
15. Thumbnail Sketches of Eminent Physicians: Evolution of the Aseptic Principle in Surgery. V. Madame Marie-Genevieve-Charlotte Thiroux d'Arconville. *North Carolina Medical Journal*, Vol. 6 (May) 1945.
16. Thumbnail Sketches of Eminent Physicians: The Evolution of the Aseptic Principle in Surgery. VI. Nicolas Appert (1750-1841). *North Carolina Medical Journal*, Vol. 6 (June) 1945.
17. The *Editio Princeps* of Guenther's *Institutiones Anatomicae*. *Bulletin of the History of Medicine*, 18: 109-111, No. 1 (June) 1945.
18. Thumbnail Sketches of Eminent Physicians: The Evolution of the Aseptic Principle in Surgery. VIII. Louis Pasteur (1822-1895). *North Carolina Medical Journal*, Vol. 6 (Aug.) 1945.
19. Thumbnail Sketches of Eminent Physicians: The Evolution of the Aseptic Principle in Surgery. IX. Joseph Lister (1827-1912). *North Carolina Medical Journal*, Vol. 6 (Sept.) 1945.
20. Surgical Therapy of the Patent Ductus Arteriosus: Report of Five Cases. *Archives of Surgery*, 51: 106-112 (Sept.) 1945.
21. Thumbnail Sketches of Eminent Physicians: The Evolution of the Aseptic Principle in Surgery. X. Robert Koch (1843-1910). *North Carolina Medical Journal*, Vol. 6 (Oct.) 1945.
22. Thumbnail Sketches of Eminent Physicians: The Evolution of the Aseptic Principle in Surgery. XI. Gustav Neuber and Ernst Von Bergmann. *North Carolina Medical Journal*, Vol. 6 (Nov.) 1945.
23. Thumbnail Sketches of Eminent Physicians: The Evolution of the Aseptic Principle in Surgery. XII. Conclusion. *North Carolina Medical Journal*, Vol. 6 (Dec.) 1945.
24. Thumbnail Sketches of Eminent Physicians: The Story of Yellow Fever. I. Introduction. *North Carolina Medical Journal*, Vol. 7 (Jan.) 1946.
25. The London Years of Benjamin Waterhouse. *Journal of the History of Medicine and Allied Sciences*. 1: 25-40, No. 1 (Jan.) 1946.
26. Thumbnail Sketches of Eminent Physicians: The Story of Yellow Fever. II. Eighteenth-Century Physicians and the Yellow Fever. *North Carolina Medical Journal*, Vol. 7 (Feb.) 1946.
27. Thumbnail Sketches of Eminent Physicians: The Story of Yellow Fever. IV.

Crawford, Nott and Beauperthuy. *North Carolina Medical Journal*, Vol. 7 (April) 1946.

28. Ligation of the Innominate Artery for Innominate Aneurysm Using Rubber Bands: Report of a Case. *Surg., Gyne. and Obstet.*, 62: 463-470 (April) 1946.
29. Thumbnail Sketches of Eminent Physicians: The Story of Yellow Fever. V. Carlos J. Finlay (1833-1915) *North Carolina Medical Journal*, Vol. 7 (May) 1946.
30. Thumbnail Sketches of Eminent Physicians: The Story of Yellow Fever. VI. George Miller Sternberg, 1838-1915. *North Carolina Medical Journal*, Vol. 7 (June) 1946.
31. Book Review: Maxwell Maltz, Evolution of Plastic Surgery. *Bulletin of the History of Medicine*, 20: 93-94, No. 1 (June) 1946.
32. The Effect of Transthoracic Vagotomy Upon the Functions of the Stomach and Upon the Early Clinical Course of Patients with Peptic Ulcer. K. S. Grimson, M. D., H. M. Taylor, Ph. D., J. C. Trent, M. D., D. A. Wilson, M. D. and H. C. Hill, M. S. *Southern Medical Journal*, 39: 460-472, No. 6 (June) 1946.
33. The Treatment of Patients with Achalasia by Esophagogastrostomy. K. S. Grimson, M. D., R. J. Reeves, M. D., J. C. Trent, M. D., and A. D. Wilson, M. D. *Surgery*, 20: 94-103 (July), 1946.
34. Benjamin Waterhouse (1754-1846). *Journal of the History of Medicine and Allied Sciences*, 1: 357-364, No. 3 (July) 1946.
35. Thumbnail Sketches of Eminent Physicians: The Story of Yellow Fever. IX. Jesse Lazear and Clara Maass. *North Carolina Medical Journal*, Vol. 7 (Sept.) 1946.
36. Historical Aspects of Aseptic Surgical Technic. *The Surgical Clinics of North America.* (Nationwide Number) October, 1946.
37. Surgical Anesthesia (1846-1946). *Journal of the History of Medicine and Allied Sciences*, 1: 505-514, No. 4 (Oct.) 1946.
38. A Note for Anti-vivisectionists. *Journal of the History of Medicine and Allied Sciences*, 1: 681, No. 4 (Oct.) 1946.
39. Thumbnail Sketches of Eminent Physicians: The Story of Yellow Fever. XI. Hideyo Noguchi and Adrian Stokes. *North Carolina Medical Journal*, Vol. 7 (Nov.) 1946.
40. Thumbnail Sketches of Eminent Physicians: Obstetrics and Gynecology in America. II. Samuel Bard, 1742-1821. *North Carolina Medical Journal*, Vol. 8 (Feb.) 1947.
41. Thumbnail Sketches of Eminent Physicians: Obstetrics and Gynecology in America. III. John Stearns, 1770-1848. *North Carolina Medical Journal*, Vol. 8 (March) 1947.
42. An Endobronchial Balloon for the Control of Bronchial Secretions During Lobectomy and Pneumonectomy. James D. Moody, M. D., Josiah C. Trent, M. D., and George W. Newton. *The Journal of Thoracic Surgery*, 16: 259-264 (June) 1947.
43. Chapters in the History of Thoracic Surgery: The Beginnings (Ancient Times

to the Close of the 19th Century). *North Carolina Medical Journal*, Vol. 9 (Jan.) 1948.

44. Chapters in the History of Thoracic Surgery: Pulmonary Resection. *North Carolina Medical Journal*, Vol. 9 (April) 1948.
45. Chapters in the History of Thoracic Surgery: Thoracoplasty in Pulmonary Tuberculosis. *North Carolina Medical Journal*, Vol. 9 (May) 1948.
46. Walt Whitman—A Case History. *Surg., Gyne. and Obstet.*, 87: 113-121 (July) 1948.
47. John Coakley Lettsom. *Bulletin of the History of Medicine*, 22: 528-542, No. 5 (Sept.-Oct.) 1948.
48. An Evaluation of Extrapleural Pneumonolysis with Lucite Plombage: Report of 51 Cases. Josiah C. Trent, M. D., James D. Moody, M. D., and Joseph S. Hiatt, Jr., M. D. To be published.
49. John Coakley Lettsom and His Literary Friends. *Surg., Gynec., and Obstet.*, 88: 134-140 (January) 1949.
50. Benjamin Rush in Edinburgh. To be published in the volume honoring Charles Singer.

ANNOUNCEMENTS

AMERICAN ASSOCIATION OF THE HISTORY OF MEDICINE

TWENTY-SECOND ANNUAL MEETING, MAY, 22-24,1949

LEXINGTON, KENTUCKY

PROGRAM

SUNDAY, MAY 22, 1949

Lafayette Hotel

AFTERNOON SESSION (2:00 to 5:00)

Henry R. Viets, President, *presiding*

2:00 Meeting of the Council.

I. Report of the Secretary.
II. Report of the Treasurer.
III. Report of the Editor.
IV. Reports of Committees.
V. Reports of Constituent Societies.
VI. New Business.

6:00 Reception.

Informal Supper.

EVENING SESSION (8:00 to 10:00)

Osler Centenary Celebration

1. Osler and the Medical Student.
   Wilburt C. Davison, Durham, N. C.
2. Osler as Pathologist. (To be read by title)
   Charles H. Bunting, Hamden, Conn.
3. Lady Osler and Her Influence.
   John F. Fulton, New Haven, Conn.
4. Sir William Osler and His Portraits.
   Cyril B. Courville, Los Angeles, Calif.
5. Osler: An Exemplar of Litterae, Scientia, Praxis, and Doctrina.
   Benjamin Spector, Boston, Mass.

MONDAY, MAY 23, 1949

Lafayette Hotel

MORNING SESSION (9:30 to 12:30)

Ralph H. Major, Vice-President, *presiding*

1. Nicolo Franco, Vilifier of Medicine.
   Dorothy Schullian, Cleveland, Ohio.
2. Samuel Sorbière—Physician, Priest, and Philosopher.
   Frank Lester Pleadwell, Honolulu, Hawaii.
3. James Marion Sims.
   M. Y. Dabney, Birmingham, Alabama.
4. The Role of Joseph Priestley in the Research Trail of the Roentgen Ray.
   Edward Skinner, Kansas City, Mo.
5. Hugh Toland.
   Mrs. Frances Gardner, San Francisco, Calif.
6. Asclepius and Hippocrates as Expert Witnesses.
   Pan Codellas, San Francisco, Calif.
7. Notes on the History of Chronic Nephritis.
   Ralph H. Major, Kansas City, Kan.
8. Dr. John Sappington of Arrow Rock.
   Edward Hashinger, Kansas City, Kansas.

AFTERNOON SESSION (2:00 to 3:00)

Henry R. Viets, President, *presiding*

2:00 Business Meeting.

2:25 Awarding of William Osler Medal.

2:30 *Fielding H. Garrison Lecture*: George Cheyne (1671-1743).
Henry R. Viets, Boston, Mass.

3:00 Visit to Transylvania University, stock farms, and other points of interest near Lexington.

Exhibit: Early Midwestern Medicine.
Elizabeth F. Carr, Chicago, Ill.

DINNER SESSION (8:00 p. m.)

Lafayette Hotel

Henry R. Viets, President, *presiding*

Address: Temple to Hospital in Care of the Sick.
Howard Dittrick, Cleveland, Ohio.

TUESDAY, MAY 24, 1949

Danville, Kentucky

MORNING SESSION (9:30 to 12:30)

Waller O. Bullock, Chairman of the Program Committee, *presiding*

Visit to Danville. Meeting at McDowell House.

1. The Stage Setting for Ephraim McDowell.
   Emmet Field Horine, Brooks, Kentucky.
2. Professional Attainments of Ephraim McDowell.
   Irvin Abell, Louisville, Kentucky.
3. Early Medical Education in Kentucky.
   Hampden Lawson, Lexington, Kentucky.
4. The Sojourn of Flint and Gross in Kentucky.
   Edgar Erskine Hume, Washington, D. C.
5. The Influence of Kentucky on the Medicine of the Southwest.
   Lewis J. Moorman, Oklahoma City, Okla.

1:00 Luncheon at Beaumont Inn, Danville.

End of the Meeting

Headquarters: Lafayette Hotel, Lexington, Kentucky.

COMMITTEE ON BIBLIOGRAPHY OF AMERICAN MEDICAL HISTORY

Dr. Henry R. Viets, president of the Association of the History of Medicine, has appointed the following members of the Association to the Committee on Bibliography of American Medical History: Dr. Whitfield J. Bell, Jr., Dickinson College, Carlisle, Pa., *Chairman*, in the place of Miss Genevieve Miller, who resigned to resume graduate studies; Dr. W. W. Francis, Osler Library, McGill University, Montreal, Canada; Dr. George Urdang, 1635 Monroe Street, Madison, Wisconsin; Dr. Richard H. Shryock, 208 College Hall, University of Pennsylvania, Philadelphia 4, Pennsylvania; Dr. Milton B. Asbell, 632 Federal Street, Camden, New Jersey; Mr. Philip M. Benjamin, Allegheny College, Meadville, Pennsylvania; and Mr. James F. Ballard, Boston Medical Library, 8 The Fenway, Boston, Massachusetts. Communications respecting the annual bibliography published in this *Bulletin* should be sent to Dr. Bell.

CONSTITUENT SOCIETIES

Johns Hopkins Medical History Club.

On January 19, 1949, the Johns Hopkins Medical History Club held a joint meeting with the Biology Club of the Johns Hopkins University. A motion picture film showing the achievements of Antony van Leeuwenhoek was demonstrated. Miss Judica Mendels, Baltimore, who for 12 years worked as an assistant of the Leeuwenhoek Committee of the Netherlands Royal Academy of Science, read a paper introducing the film.

NATIONAL NEWS

Medical Library Association.

The Medical Library Association will hold its 48th Annual meeting on April 10-14, at Galveston, Texas. The Library of the University of Texas Medical Branch will be the host and hotel headquarters will be at Hotel Galvez.

Addresses high-lighting the meeting will be: "Function of the Historical Collections in Medical Libraries," by Dr. John F. Fulton; "The Elmer Belt Library of Vinciana," by Dr. Elmer Belt; "Choosing Books for Medical Library Exhibits," by Mr. Herman H. Henkle; "The Position of the Library as a Teaching Unit in Dental Education," by Dr. George H. Enton; "What the Public Wants in a Medical Book," by Mr. C. Lamar Wallis; "Bibliography by Cooperation," by Dr. Luther H. Evans.

Round Table discussion will be on: "Medical College and Reference Work," Mr. William D. Postell, Moderator; "Dentistry," Miss Helen Hlavac, Moderator; "Pharmacy," Miss Margaret E. Vinton, Moderator; "Hospitals and Veterans Administration Facilities," Miss Mabel McLaughlin, Moderator.

Iowa

We have received a letter from Dr. John T. McClintock, Room 259, Medical Building, Iowa City, Iowa, of which we publish the following excerpt in the hope that readers of the *Bulletin* who can give some information will communicate with Dr. McClintock.

> "As a member of the State Medical Society's Committee on Medical History and as I have been connected with medical education in Iowa for over fifty years, I have been asked to prepare the history of the medical schools of the state for a part of a volume which is to be issued in connection with the State Society's centennial celebration in 1950.
>
> "During this 100 years about fifteen medical schools were organized in the state, all of which have been discontinued except the one connected with the State University at Iowa City.
>
> "Of those which have been discontinued I have fairly good data except for the one at Des Moines organized, I think, in the early 1880's under the name of King Eclectic Medical. It was refused recognition by the Iowa State Board of Medical Examiners in 1886 and it then went out of existence. I have been

unable to find any record of its organization, the names of its founders, the number of graduates, etc. I have located one of its professors—a Peter Van Lackum—but his family has not been able to locate any material relative to the school.

"The other school for which I have found little material was organized in Council Bluff and had an existence of only about 3 years, and no graduates."

Madison, Wisconsin

The University of Wisconsin Centennial Symposium on Science and Civilization was held on January 13-15, 1949. The program was as follows.

I. The Origins of Science: Thursday, January 13, 3:00 p. m.
"Aristotle and the Origins of Western Science"
R. P. McKeon, University of Chicago
"Some Unfamiliar Aspects of Medieval Science"
Lynn Thorndike, Columbia University

II. The Philosophy of Science: Thursday, January 13, 8:00 p. m.
"On the Definition of Scientific Method"
Max Black, Cornell University
"The Meaning of Reduction in the Natural Sciences"
Ernest Nagel, Columbia University

III. Discussion of Thursday's papers: Friday, January 14, 10:00 a. m.

IV. Physics as a Cultural Force: Friday, January 14, 3:00 p. m.
Speakers: Farrington Daniels, University of Wisconsin
Philipe LeCorbeiller, Harvard University

V. Science and Life; Science and Society: Friday, January 14, 8:00 p. m.
"Metaphors of Human Biology"
Owsei Temkin, Johns Hopkins University
"Science and Society"
William F. Ogburn, University of Chicago

VI. Discussion of Friday's papers: Saturday, January 15, 10:00 a. m.

Michigan

A plan to raise funds by popular subscription for the establishment of a Beaumont Medical Shrine on Mackinac Island has been approved by the Council of the Michigan State Medical Society (*J. A. M. A.*, Jan. 15, 1949, p. 165).

New York

The following meetings have been announced by the Seminar in the History of Medicine of Mount Sinai Hospital.

Tuesday, December 28, 1948, 8:30 p. m.

"Diabetes as Described by Aretaeus"	Ruth Cortell, M. D.
"Thomas Willis on Diabetes"	George Berg, M. D.
"History of the Treatment of Diabetes"	Henry Dolger, M. D.

Discussion: Solomon Silver, M. D.

Tuesday, January 25, 1949, 8: 30 p. m.

"The History of Insulin"	Henry Dolger, M. D.
"An Excerpt from the Memoirs of Naunyn"	David Krohn, M. D.
"The Life and Achievements of Bernard Naunyn"	David Adlersberg, M. D.

Discussion: Harry Sobotka, Ph. D.

Tuesday, February 22, 1949, 8: 30 p. m.

"Early Descriptions of Arteriosclerosis"	Arthur Ludwig, M. D.
"A Survey of the History of Nutrition"	Fritz Lieben, Ph. D.

NEWS FROM ABROAD

The Library of Caleb Hillier Parry.

Mr. Reginald W. M. Wright, City Librarian of Bath, has lately published in the *Record-Bulletin* of the municipal library (1948, *1*, 225-234) an account of the Bath Hospital Medical Library. The library has been under his care for many years and has now been formally presented by the Hospital to the City. Bath, probably the most beautiful town in England, has been famous as a health resort since Roman times. It is therefore right that the city should own a medical library. But this library has the special value that it was formed by Caleb Hillier Parry, the great Bath physician who discovered the cause of angina pectoris and described the syndrome of exophthalmic goitre. At his death in 1822 Parry bequeathed to the Bath Hospital his collection of 555 medical books covering a remarkably wide range of history. His successor as physician to the Hospital, Dr. John Soden, added a further 220 books when he died in 1863.

Parry's library contains many Renaissance books, both texts of the Greek and Arabic medical writers and original works of the sixteenth century. It is instructive to find that he owned works of English medical writers of the Tudor period, such as Elyot, Borde, Vicary, Peter Lowe and William Clowes, who are generally thought to have been despised in Parry's time. The library is also broadly representative of European medicine of the seventeenth and eighteenth centuries.

Edward Jenner was one of Parry's intimate friends. He dedicated his *Inquiry into the Cow-Pox* to Parry, and a copy of the original edition of 1798 is in the library. Twenty-four years later Jenner published *A Letter to Charles Henry Parry* (Caleb Parry's son); his presentation copy is in the library. The elder Parry's own writings are fully represented; he was an agriculturist and geologist as well as a physician.

W. F. Lefanu

BOOK REVIEWS

Regimen Sanitatis Salernitanum. A cura di G. Barbensi. Florence: Leo S. Olschki, 1947. x + 27 pp. Lire 1000.00.

It is not astonishing that a new edition of the Regimen Sanitatis Salernitanum has been published recently—in an edition of 1000 numbered copies—because this most popular of all medical books has not lost any of its popularity. Indeed I do not know of any other medical book of which we have about one hundred mediaeval manuscripts and probably over 500 printed editions. What a field for a collector! And what makes it still more interesting is that the text of these editions varies so much. The Aphorisms of Hippocrates were also very popular for many centuries, but from the Renaissance on their text was more or less established, while in the case of the Regimen every generation added some verses so that it grew from a few hundred to several thousand verses. And, indeed, when we read it today we feel like taking the pen and adding a few stanzas about hormones, vitamins, calories, tomato juice, breakfast cereals, coca-cola, birth control and penicillin, topics that the older editions did not include—although there is one which knows of Jenner's vaccination.

A text that constantly calls for additions is very much alive and the Regimen has not only grown steadily but has been commented upon many times, from the 13th century when Arnald of Villanova wrote the first commentary which was copied and printed many times, to the end of the 19th century when in 1880 the Paris medical publishers J.-B. Baillière et fils brought out a book of 609 pages containing the Latin text of the Regimen with the French translation of Ch. Meaux Saint-Marc, a learned introduction by Charles Daremberg, and a commentary of over 300 pages intended to "explain, complete and sometimes correct the aphorisms of the School of Salerno." In this way the publishers hoped the book would become "a kind of treatise of dynamic hygiene." This was at the time of Pasteur, Koch and Pettenkofer.

But why not make such a book? I could very well conceive of a modern manual of health education based upon the Regimen because it is so full of sound common sense, of hygienic precepts tested through the centuries, and presented in a pleasant way, with a good sense of humor. It preaches moderation in all matters of life, the middle way, the avoidance of mortification of the flesh as well as of excesses of any kind. And this after all is the golden rule of all personal hygiene. G. Barbensi in the short but appealing introduction to the most recent edition very justly points out that the book reflects a certain epicurism, and this is not astonishing because society in the Middle Ages was anything but austere or prudish. There was asceticism in certain quarters, to be sure, but life on earth was not too secure and people, therefore, enjoyed the more the good things that life offered.

The history of the Regimen and its commentaries reflects practically the entire history of personal hygiene of seven centuries, truly a record for one single book, and it is always with renewed pleasure that we take it in hand and read its charming and simple verses:

Si tibi deficiant medici, medici tibi fiant
Haec tria: mens laeta, requies, moderata diaeta.

Or as Sir John Harington put it:

Use three Physicions still; first Doctor Quiet,
Next Doctor Merry-man, and Doctor Dyet.

The present publication is the reprint of a 15th century edition, I am not sure of which. G. Barbensi in his introduction says that it is not mentioned in the usual bibliographical repertories. The title is REGIMEN SANITATIS CVM EXPOSITIONE MAGISTRI ARNALDI DE VILLANOVA CATHELLANO NOVITER IMPRESSVS, in other words, the same title with all its mistakes that we also have in the Venice edition *per Bernardinum Venetum de Vitalibus*, mentioned by Choulant (Bücherkunde, p. 268 = Hain 13754). It probably is a closely related although different edition since Venice is not mentioned. Or it may be related to Hain 13750, although the title has not quite the same mistakes.

The edition is not a facsimile but a reprint made from a copy preserved in the Biblioteca Nazionale Centrale in Florence. It is nicely printed in the old style on not too good paper. Arnald's commentary has not been included. This new edition will undoubtedly win new friends for a great old book.

HENRY E. SIGERIST

HERBERT GAMBRELL. *Anson Jones, the Last President of Texas.* Garden City, New York: Doubleday and Company, Inc., 1948. 462 pp. $5.00.

Herbert Gambrell has not only placed in bold relief a colorful personality but he has presented a well-authenticated history of the one-time harassed Republic of Texas. The biographical story of Anson Jones, M. D., who served as the last president of this belligerent republic, leads the reader through the exciting variations in the life of this remarkable soldier of fortune. Anson Jones was born at Great Barrington, Massachusetts of Cromwellian stock. The product of New England discipline and training in the Victorian age, he was destined to drift into a strategic position in the far southwest where he became a civilizing force among pioneer people and the moving spirit in the fight for independence and the ultimate annexation of the Republic of Texas as the Lone Star State.

The author artfully marks the devious path leading through unsuccessful business and professional adventures in the east to similar failures as physician and commission merchant in New Orleans. Penniless and debt-ridden in New Orleans, Jones is pictured as a penitent potential gambler threatend by mint juleps. Here in 1833, while contemplating his unhappy plight, he had the good fortune to meet Captain Jeremiah Brown, commander of the Sabine, then in Texas trade, and born booster for the northeast section of the Mexican Republic later to become the great state of Texas. With nothing to hold him in New Orleans except the lawsuit for debt against his commission firm, Jones joined Brown and his crew on the Sabine and sailed up the Brazos River to the well-established town of Brazoria. Having

grown weary of successive failures in cities and settled communities he was ready to try his hand in the wild and wooly west, especially as Brazoria was in a receptive medical mood because of cholera and the recent loss of two physicians. Thus at the age of 35 he was providentially launched upon his remarkable career as physician, farmer, soldier and statesman. According to the author the "early onset of the sickly season in the spring of 1834 kept Dr. Jones riding his forty-mile circuit night and day . . ." The prospects for an independent fortune were dissipated by the Revolution. He enlisted as a private, accepted service as surgeon to the second regiment. He followed Sam Houston to the battle of San Jacinto and after working through the night in the service of the wounded, he accompanied the Commander-in-Chief and the captured Mexican president to Galveston. He was then appointed assistant surgeon-general. Thus his honorable career in the service of the people of Texas was initiated.

The intriguing story of this ever-expanding service is well presented. The reader eagerly follows Anson Jones through his various public offices and observes his steady growth in discrete diplomacy and astute statesmanship as he met political intrigue and entrenched human depravity with abiding integrity.

It is impossible to read the book without developing the admiration due a great man and a feeling of gratitude for his part in the conditioning of a pioneer populace, the birth of a sovereign state and its contribution to the union. Misinterpretation of his purposes, lack of appreciation on the part of his people and his waning popularity were beyond his comprehension. No doubt his untimely end may be attributed to disappointment occasioned by these misfortunes. This volume is of particular interest to medical historians because it clearly reveals the important part played by physicians in the early history of Texas.

LEWIS J. MOORMAN

W. J. Bishop and N. M. Matheson. *Medicine and Science in Postage Stamps.* London: Harvey and Blythe, Ltd., 1948. 82 pp., ill. 7/6 d. (Distributors: H. K. Lewis and Co. Ltd., London.)

For those who are philatelically inclined, especially with topical collections of physicians or scientific subjects related to medicine and science, this small book is a find. The senior author is the Librarian of the Wellcome Historical Medical Museum; the junior, a surgeon of the Ashford County Hospital, Middlesex. Both have contributed several papers to the philatelic literature.

The literature of medical philately is extensive but scattered. The authors have published the first book on the subject, which should serve as an excellent reference. It contains a well presented discussion of medical personages and scientists who have been honored for their attributes by the issuance of a postage stamp, those who were physicians or "truants" from medicine, famed in other fields and for the latter recognized, and of the broadening use of postage stamps in the interest of tuberculosis, cancer, leprosy, maternity and child welfare and other public health projects.

There are 31 pages of illustrations of representative stamps, and a brief but informative biography of each person on portrait stamps known to the authors at the time of publication.

FRANK R. SMITH, JR.

CONTRIBUTORS TO THIS NUMBER

KARL A. BAER is Bibliographer, Reference Division, Army Medical Library, Washington 25, D. C.

HOWARD DITTRICK, M. D., was Secretary of the American Association of the History of Medicine from 1946 to 1948. His address is 3320 Euclid Heights Blvd., Cleveland Heights 18, Ohio.

MARIE-LOUISE DURAN-REYNALS is on the staff of the Department of Bacteriology, Yale School of Medicine, New Haven, Conn.

W. R. LEFANU is Librarian of the Royal College of Surgeons of England, Lincoln's Inn Fields, London, W. C. 2.

LEWIS J. MOORMAN, M. D., is Editor in Chief of the Oklahoma State Medical Association. His address is 304 Osler Building, Oklahoma City, Oklahoma.

JANE M. OPPENHEIMER, Ph. D., is Associate Professor of Biology, Bryn Mawr College, Bryn Mawr, Pa.

D. V. S. REDDY, M. D., is Professor of Physiology, Medical College, Madras. His address is 101, Big Street, Triplicane, Madras, India.

HENRY E. SIGERIST, M. D., formerly Professor of the History of Medicine at the Johns Hopkins Medical School, is now living at Casa Serena, Pura, Ticino, Switzerland.

FRANK R. SMITH, JR., M. D., is Associate Professor of Preventive Medicine and Director of the Personnel Health Clinic, The Johns Hopkins Medical School, Baltimore 5, Md.

C.-E. A. WINSLOW, D. P. H., Professor Emeritus of Public Health. His address is Medical Historical Library, Yale School of Medicine, 333 Cedar St., New Haven, Conn.